

RESEARCH AND CLINICAL MEDICINE

~ VOLUME III, SUPPLEMENT I, 2019 ~



**The European Journal of Innovative,
Integrative and Translational Medicine**

MEDICAL RESEARCH

EDITOR-IN-CHIEF:

Marius RAICA
Department of Microscopic Morphology/Histology,
Angiogenesis Research Center
“Victor Babeş” University of Medicine and Pharmacy Timișoara,
Timișoara, Romania
raica@umft.ro

EDITOR:

Petru MATUSZ
Department of Anatomy,
Department of Research and Grant Management,
“Victor Babeş” University of Medicine and Pharmacy Timișoara,
Timișoara, Romania
matusz@umft.ro

EDITORIAL BOARD

Nihal APAYDIN, *Department of Anatomy, Faculty of Medicine, Ankara University, Ankara, Turkey*

Andrei ANGHEL, *Department of Biochemistry „Victor Babeş” University of Medicine and Pharmacy Timișoara, Romania*

Ferenc BARI, *Department of Medical Physics and Informatics, Faculty of Medicine, University of Szeged, Szeged, Hungary*

Răzvan BARDAN, *Department of Urology, „Victor Babeş” University of Medicine and Pharmacy Timișoara, Romania*

Susana BIASUTTO, *Chair and Institute of Normal Anatomy, Faculty of Medical Sciences, National University of Cordoba, Cordoba, Argentina*

Yihai CAO, *Department of Microbiology, Tumor and Cell Biology, Karolinska Institute Stockholm, Stockholm, Department of Medicine and Health Sciences, Linköping University, Linköping, Sweden*

Anca Maria CÎMPEAN, *Department of Morphologic Microscopy/Histology, Angiogenesis Research Center, “Victor Babeş” University of Medicine and Pharmacy Timișoara, Timișoara, Romania*

Valentin DJONOV, *Section of Topographic and Clinical Anatomy, Institute of Anatomy, Bern, Switzerland*

Andreea Rodica DRAGULESCU, *Division of Cardiology, Labatt Family Heart Centre, Department of Pediatrics, Department of Diagnostic Imaging, The Hospital for Sick Children Toronto, Canada*

Cristina DEHELEAN, *Department of Toxicology, Faculty of Pharmacy, „Victor Babeş” University of Medicine and Pharmacy Timișoara, Romania*

Petruț GOGĂLNICEANU, *Department of Surgery, University College London, United Kingdom*

Arjan W. GRIFFIOEN, *Angiogenesis Laboratory, Department of Medical Oncology, VU University Medical Center Amsterdam, The Netherlands*

Lucian JIGA, *Department of Surgery II, „Victor Babeş” University of Medicine and Pharmacy Timișoara, Romania*

Cătălin MARIAN, *Department of Biochemistry, „Victor Babeş” University of Medicine and Pharmacy Timișoara, Romania*

Petru MATUSZ, *Department of Anatomy, Department of Research and Grant Management, “Victor Babeş” University of Medicine and Pharmacy Timișoara, Romania*

Beatrice NICO, *Department of Human Anatomy and Histology, University of Bari Medical School, Bari, Italy*

Tudor OPREA, *Translational Informatics Division, Department of Internal Medicine, University of New Mexico School of Medicine, 1 University of New Mexico, Albuquerque, USA*

Marius RAICA, *Department of Morphologic Microscopy/Histology, Angiogenesis Research Center Timișoara, Romania*

Domenico RIBATTI, *Department of Basic Medical Sciences, Neurosciences and Sensory Organs, Section of Human Anatomy and Histology, University of Bari Medical School, Italy*

Patrycja NOWAK-SLIWINSKA, *Institute of Bioengineering, Swiss Federal Institute of Technology (EPFL) Lausanne, Lausanne, Switzerland*

Sebastian Friedrich SCHOPPMANN, *Department of Surgery, University of Vienna, Vienna, Austria*

Ovidiu ȘIRBU, *Department of Biochemistry, „Victor Babeş” University of Medicine and Pharmacy Timișoara, Romania*

Ioan SPOREA, *Romania*

Steven STACKER, *Tumour Angiogenesis Program, Peter MacCallum Cancer Centre, East Melbourne, East Melbourne, Victoria, Australia*
Sir Peter MacCallum Department of Oncology University of Melbourne, Melbourne, Parkville, Australia

Mircea-Constantin ȘORA, *Plastination Laboratory, Center for Anatomy and Cell Biology, Plastination and Topographic Anatomy, Medical University of Vienna, Austria*

Tonn TORSTEN, *Institute for Biomedical Research, Georg-Speyer-Haus, Frankfurt/Main, Frankfurt/Main, Germany*

**“VICTOR BABEȘ” UNIVERSITY OF MEDICINE AND
PHARMACY TIMIȘOARA**



UMFT

Universitatea de
Medicină și Farmacie
„Victor Babeș”
din Timișoara

Timișoara Anatomical Days



First Edition with International Participation

December 6 – 7, 2019 Timișoara, România

TIMIȘOARA ANATOMICAL DAYS COMMITTEES

THE ORGANIZING COMMITTEE

Sorin Lucian BOLINTINEANU
Romulus Zorin TIMAR
Meda Lavinia NEGRUȚIU
Claudia BORZA
Delia-Elena ZĂHOI
Marius-Corneliu NICULESCU
Daniela RAHOTĂ
Adelina-Maria JIANU
Elena POP
Amalia-Raluca CEAUȘU
Cristian-Silviu SUCIU
Radu TURCHIN
Monica-Adriana VAIDA
Laura-Octavia GRIGORIȚĂ
Elena SAMFIRESCU
Carmen-Camelia HAIVAS
Lucia STOICAN
Dorina SZTIKA
Corina-Georgina MATU
Luminioara-Maria ROȘU
Agneta-Maria PUSZTAI
Loredana-Gabriela STANA
Codruța-Ileana PETRESCU
Anca-Laura MAGHIARI
Iulia-Camelia CIOBANU
Ecaterina DĂESCU
Adrian Cosmin ILIE
George-Silviu STANCU
Lavinia CRĂCIUN
Adrian LĂZĂRESCU
Paul BÎNĂ
Roxana ȚAGA
Octavia VIȚĂ
Vlad LUPU
Adelina GHEJU
Diana-Elena MOTRUNĂ
Virgil ROTARU

THE SCIENTIFIC COMMITTEE

Petru MATUSZ
Marius RAICA
Alis DEMA
Mircea-Constantin ȘORA
Teodor Traian MAGHIAR
Anca-Maria CÎMPEAN
Serghei SUMAN
Iliia CATERENIUC
Iulian OPINCARIU
Oreste STRACIUC
Alexandra FAUR
Codruța LĂZUREANU
Adrian VĂDUVA

SECRETARY

Alina-Maria ȘIȘU

A LESSON FROM THE PAST, A HOPE FOR THE FUTURE

Marius Raica

“Victor Babeș” University of Medicine and Pharmacy, Department of Microscopic Morphology/Histology,
Angiogenesis Research Center Timișoara, România

More than three decades ago, in a classroom at the second floor of the University, in a late autumn and a rainy afternoon. The president opens the meeting, presenting the invited speakers and topics to be discussed. Usually four to five presenting authors were included in the program each meeting. Some students sitting in the last row of chairs could observe the most respected professors from morphological disciplines. Leonida Georgescu, Benedict Menkes, Constanta Ramniceanu, Nicolae Tudose, Maria Dragan, Victor Dimulescu, Nicolae Rottenberg, and many others are waiting for the scientific reports of their colleagues, as they usually do each month. Traditionally, during these scientific meetings there were presented intermediate research reports followed by many questions, long critical but constructive discussions given by real experts in the field. Based on advice and recommendations made by experts, the final form of research was later submitted for publication. By November 1989, it was organized the last meeting of the local branch of the society of morphology, which included anatomy, histology, pathology, and biology.

Now we face with an excellent tentative to bring to life again morphological disciplines, during Timisoara Anatomical Days, which will be held in early December 2019. More than 70 abstracts were accepted for presentation, and authors come from Romania, Austria, Moldova and Ukraine. Is it important to publish abstracts of a conference in a supplement of Research and Clinical Medicine? There are some important reason that favor a positive answer. First, in the opening of the conference there are shown some general and particular issues of the integrated medical teaching and expectations related to the current necessities of students and society. Second, because the conferences includes a lot of useful data for the knowledge of gross anatomy, histology, and pathology, therefore, the conference is addressed not only to doctors, but also to students in medicine. It is not about only a basic research, but also many topics are associated with clinical application. This approach opens a large field that makes these topic more useful to the participants.

Yes, I strongly believe that from time to time, a journal should publish all accepted abstracts of a conference, as now it is the case of Timisoara Anatomical Days. It is an interesting `landscape` of research in a restricted field and geographic area. On one hand is encouraging for young authors to publish their work, on the other hand to spread the new information as soon as possible, and last but not least, to make a fruitful exchange of ideas. For some of us, this first edition of the conference will be a good opportunity to remember the experience accumulated in early years of our carrier, and for younger participants will be a hope in their developing in both profession and academic experience.

November 26, 2019

Timisoara, Romania

SCIENTIFIC PROGRAM

Friday, December 6, 2019

8:00-10:00	Participants Registration	Department of Anatomy 1 st Floor
10:00-10:15	Opening Ceremony	Senate Hall 1 st Floor
10:15-11:00	Conference <i>Challenges of Medical Education in the XXIst Century</i> Marius Raica	Senate Hall 1 st Floor
11:30-13:30	Session I e-Poster Chairmen Serghei Suman, Petra Marusz, Alis Dema	Iagnov Hall Ground Floor
14,30-16,00	Session I Oral Communications Microscopic Anatomy Chairmen Marius Raica, Anca-Maria Cîmpean, Alina Şişu	Senate Hall 1 st Floor
16:00-18:30	Session II e-Poster Chairmen Daniela Rahotă, Elena Pop, Radu Turchin	Iagnov Hall Ground Floor

Saturday, December 7, 2019

9:00-10:00	Conference <i>Teaching in an Integrated Curriculum. The Perspective of a Reluctant Faculty Member</i> Mircea Constantin Şora	Pius Brânzeu Hall Center of Laparoscopic Surgery and Microsurgery
10:00-11:00	Conference <i>Hepatic Portal Vein - Clinical Applicability through the Prisms of it's Anatomical Variability</i> Serghei Suman	Pius Brânzeu Hall Center of Laparoscopic Surgery and Microsurgery
11:30-13:00	Session II Oral Communications Anatomy-Embryology / Pathological Anatomy Chairmen Mircea Constantin Şora, Sorin Bolintineanu, Delia-Elena Zăhin	Pius Brânzeu Hall Center of Laparoscopic Surgery and Microsurgery
13:00-14:00	Session III e-Poster Chairmen Ilia Căsterenino, Adelina-Maria Jianu, Monica Vaida	Pius Brânzeu Hall Center of Laparoscopic Surgery and Microsurgery
14:00-14:30	Closing Ceremony	Pius Brânzeu Hall Center of Laparoscopic Surgery and Microsurgery

TABLE OF CONTENTS

<p>Teaching in an Integrated Curriculum. The Perspective of a Reluctant Faculty Member MC.Șora.....9</p> <p>Hepatic Portal Vein - Clinical Applicability through the Prims of it's Anatomical Variability S.Suman, A.Suman, L.Suman.....11</p> <p>Challenges of Medical Education in the XXIst Century M.Raica.....12</p> <p>Connections of the Facial Nerve with Regional Cranial Nerves and their Clinical Significance A.Babuci, I.Catereniuc, G.Certan, T.Botnari, D.Botnaru.....13</p> <p>Congenital Anomalies of Deceased Fetuses and Infants from Emergency County Hospital Timisoara R.Barna, D.Szilagyı, D.Herman, D.Anderco, M.Iacob, C.Suciu, R.Cornea, A.Mureșan, S.Costi, C.Lăzureanu, M.Cornianu, S.Tăban, A.Dema.....14</p> <p>Anatomical Variability of the Small Saphenous Vein A.Bendelic, I.Catereniuc.....15</p> <p>Modifications of Extracellular Matrix Components in the Wall of Varicose Saphenous Veins A.Bendelic, M.Raica.....16</p> <p>The Influence of Adipose Derived Stem Cell on Nerve Regeneration V.Bloancă, Z.Crăiniceanu, A.M.Cîmpean, T.Bratu.....17</p> <p>Injected Plastic Materials Used in Anatomy S.Bolintineanu, L.Bolintineanu, E.Pop, G.Stancu, AM. Șișu.....18</p> <p>The Mandibular Rotation as a Determinant for the Development of the Masseteric Tuberosity D.Breban Schwarzkopf, A.Ogodescu, E.Pop, A.M.Sisu, E.Samfirescu, S.L.Bolintineanu.....19</p>	<p>The Features of the Myofibroblasts and Lymphatic Microvascular Density in the Colorectal Adenocarcinoma A.R.Ceașu, A.Găman, P.Gaje, A.M.Cîmpean, M.Raica.....20</p> <p>The Highlighting of the Terminal Branches of the External Carotid Artery I.C.Giobanu, E.Samfirescu.....21</p> <p>Level of the Origin and Distribution of the Replaced Right Hepatic Artery. Morphological Study by MDCT Angiography A.N.Costea, N.Iacob, R.Lupulescu, H.Pleș, P.Matusz.....22</p> <p>The Podocyte: Morphology, Function and Dysfunction A.A.Cosma.....23</p> <p>The Pericyte and its Central Roles. A Review S.Comșa.....24</p> <p>Anatomical Considerations about Collateral Pathways in Aortoiliac Occlusion L.Crăciun, G.S.Stancu, M.Murariu, C.Ivan.....25</p> <p>Myoid Cell of the Human Thymus: a Stranger in the Night of Myasthenia Gravis AD.Cumpanas, R.S.I.Mos, AM.Cîmpean, M.Raica.....26</p> <p>Morphological Considerations on the Variation of Gonadal Veins and Clinical Implications. Study Based on Dissection E.Dăescu, A.M.Pusztai, L.M.Rosu, D.Sztika, D.E.Zăhoi.....27</p> <p>Individual Variants of the Structure and Dimensions of the Pancreatic Duct I.Drangoi, O.Belic, A.Țurcanu.....28</p> <p>Leiomyoma of the Broad Ligament of the Uterus. Case Report of an Incidental Finding A.C.Faur, A.M.Șișu, L.O.Grigoriță, L.G.Stana, S.L.Bolintineanu.....29</p>
--	--

Teratomas in Pediatric Age Group: A 5-Years Retrospective Study

A.C.Faur, S.L.Bolintineanu, L.G.Stana, R.Heredea.....30

Selenium Administration Impact on Female Genital System in Rats with Induced Diabetes Mellitus

R.Folescu, AGM.Motoc, ML.Grigoraş, CC.Haivas, CL.Zamfir.....31

A Rare Case of Kidney Pathology: Wunderlich Syndrome

A.Gheju, S.Tăban, I.Mihai, A.Jurescu, E.Olteanu, O.Vita, A.Văduva, M.Cornianu, D.Anderco, A.Dema.....32

Cadaveric Study of Lumbrical Muscles of the Hand

LO.Grigorita, MA.Vaida, LG.Stana, AM.Jianu, MC.Niculescu, CG.Matu, NS.Damen.....33

Morphologic Evaluation of the Mental Foramen in Western Romanian Population

LO.Grigorita, A.Grigorita, AM.Jianu, A.Tudor, MA.Vaida, AC.Faur, AC.Ilie.....34

Routine Preoperative Ultrasound Examination of the First Extensor Compartment in Patients with De Quervain Disease. Is it Necessary?

V.Gyebnar, AT.Shammat, ZP.Crăiniceanu.....35

Vertebral Level of the Origin of the Celiac Trunk. Morphological Study by MDCT Angiography

N.Iacob, H.Pleş, P.Matusz.....36

Anatomical Variations of the Celiac Trunk: MDCT Angiographic Study

N.Iacob, H.Pleş, P.Matusz.....37

Erythrocytes: What's New in Biomedicine?

AA.Jitariu.....38

Clinicopathological Corellations in Uterine Cancer

A.Jurescu, A.Muresan, O.Vita, A.Văduva, A.Gheju, I.Mihai, EG.Olteanu, R.Cornea, V.Lupu, C.Lăzureanu, M.Cornianu, S.Tăban, A.Dema.....39

Ectopic Tissue and its Clinical and Pathological Significance

A.Jurescu, M.Cornianu, A.Văduva, A.Gheju, I.Mihai, EG.Olteanu, O.Vita, R.Cornea, C.Lăzureanu, S.Tăban, A.Dema.....40

Ovarian Characteristics in the Fetal Period

I.Kashperuk-Karpiuk, D.Proniaiev, N.Shvets, T.Penteleichuk, O.Ursuliak.....41

Ombredanne's Disease. A Case Report of Multiple Joint Deformities in an Adult Patient

A.Lăzărescu, P.Bîină, R.Ţaga, AM.Şişu, SL.Bolintineanu, L.Bolintineanu.....42

Incidental Finding of Thyroid Carcinoma Developed in Relationship with Thyroglossal Duct Cyst

DC.Lăzureanu, A.Mureşan, A.Jurescu, OC.Viţa, M.Iacob, D.Szilagyı, I.Icma, FLazăr, M.Cornianu.....43

A Comparative Analysis of the Neck Congenital Cystic Lesions with Anatomico-Clinical Evaluation

DC.Lăzureanu, A.Jurescu, A.Văduva, A.Gheju, I.Mihai, A.Dema.....44

A Retrospective Study of the Branchial Apparatus Anomalies with Clinical and Morphological Considerations

DC.Lăzureanu, S.Tăban, A.Jurescu, R.Cornea, M.Iacob, D.Szilagyı, H.Petrescu, G.Iovănescu, G.Nodiţi, A.Dema.....45

Morphological Variability of the Femoral Neck-Shaft Angles

CG.Matu, MA.Vaida, LO.Grigorită, AC.Ilie, AM.Jianu, L.Stana, RA.Matu.....46

Unusual Formation of the Median Nerve

CG.Matu, MA.Vaida, LO.Grigorită, AC.Ilie, AM.Jianu, L.Stana, RA.Matu.....47

Morphological Considerations Concerning Multiple Renal Arteries on a Continuous Series of 1,000 Cases Examined by MDCT Angiography

P.Matusz, GD.Miclăuş, N.Iacob, H.Pleş.....48

Characterization of Decellularized Porcine Aorta as Tissue Engineering Scaffolds for Vascular Application

T.Malcova, T.Bălutel, V.Popescu, V.Nacu.....49

Autosomal Dominant Polycystic Kidney Disease: A Single Pathology Department Based Study

I.Mihai, EG.Olteanu, A.Gheju, A.Jurescu, O.Vita, R.Cornea, A.Muresan, S.Tăban, Alis Dema.....50

The Role of the Olfactory Nerve Anatomy in Understanding the Negative Symptoms of Schizophrenia

N.Nicoară, D.Rahotă, G.Holt, A.Bucur, P.Mihancea, A.Pop.....51

Immunohistochemistry in the Microscopic Diagnosis of Bronchopulmonary Cancers

N.Nicoară, D.Rahotă, G.Holt, C.Beișanu, A.Bucur, A.Pop52

Coronary Arteries Morphology

CI.Petrescu, AM.Șișu, E.Pop, AC.Faur, SL.Bolintineanu, AL.Maghiari, P.Matusz.....53

Azygos Venous System Variability. Clinical Issues

CI.Petrescu, AM.Șișu, E.Pop, P.Bînă, SL.Bolintineanu, R.Țaga, L.Bolintineanu.....54

Anterior Cruciate Ligament (ACL) Reconstruction Using Hamstring Tendon Graft - A Case Report

CI.Petrescu, AM.Șișu, E.Pop, AC.Faur, SL.Bolintineanu.....55

Thalidomide-Induced Embryopathy

A.Pop, D.Rahotă, P.Mihancea, R.Pîrvan, N.Nicoară.....56

Anatomic Assessment of the Cerebellar Arteries via Dissection

E.Pop, E.Samfirescu, IC.Ciobanu, SL.Bolintineanu, L.Bolintineanu, P.Matusz.....57

Medulla Oblongata Perforating Arteries - Mezoscopic Anatomic Assessment

E.Pop, AL.Maghiari, CC.Haivas, LM.Roșu, AM.Pusztai, DB.Schwarzkopf.....58

Rare Synovial Cyst in the Posterior Aspect of the Leg

E.Pop, L.Bolintineanu, LM.Roșu, D.Breban, Schwarzkopf, E.Dăescu, G.Țăpălagă.....59

Superior Bronchial Arteries Origin. Anatomic Study

E.Pop, CI.Petrescu, D.Breban Schwarzkopf, IC.Ciobanu, G.Țăpălagă, AM.Șișu.....60

Fenestrated Vertebral Artery – Anatomical - Clinical Correlations

E.Pop, E.Samfirescu, IC.Ciobanu, L.Bolintineanu, D.Breban Schwarzkopf, CC.Haivas.....61

The Developmental Features of Craniofacial Complex Due to the Formation of Hard Palate

OM.Popelyuk, D.Proniaiev, I.Kashperuk-Karpiuk.....62

Morphological Features of Uterine Vessels in Human Ontogenesis

D.Proniaiev, I.Kashperuk-Karpiuk, OM.Popelyuk.....63

The Meckel Diverticulum. Anatomical and Scintigraphic Study

AM.Pusztai, E.Dăescu, LM.Roșu, DE.Zăhoi, D.Sztika, L.Stoican, P.Matusz.....64

The Lymphatic Drainage of the Breast. The Sentinel Lymph Node Concept

AM.Pusztai, LM.Roșu, AL.Maghiari, R.Lupulescu, VB.Buciu, ZP.Crăiniceanu.....65

Lymphedema. Anatomical and Scintigraphic Study

AM.Pusztai, E.Dăescu, LM.Roșu, MA.Vaida, AL.Maghiari, P.Matusz.....66

Two Left Venae Saphenae Magnae, Presenting Different Origins and Draining Points. Case Report

LM.Rosu, E.Pop, E.Dăescu, AM.Sisu, L.Bolintineanu, SL.Bolintineanu.....67

Complicated Arteriovenous Fistula - Implications of Superficial Venous System Variability in the Pathology of Arteriovenous Fistula. Clinical Case Report

LM.Roșu, AM.Pusztai, E.Dăescu, E.Pop, AI.Roșu, DC.Roșu.....68

The Facial Nerve and the Intraparotid Facial Nerve Branches

E.Samfirescu, IC.Ciobanu.....69

The Osteocyte

S.Sârb.....70

Dextrocardia. Clinical Cases

AM.Șișu, CI.Petrescu, E.Pop, AC.Faur, AM.Pusztai, A.L.Țărescu, SL.Bolintineanu.....71

Ligament of Struthers

AM.Șișu, CI.Petrescu, LG.Stana, L.Bolintineanu, CC.Haivas, SL.Bolintineanu, G.Țăpălagă72

A Study on the Morphology of the Suprascapular Notch and the Superior Border of the Scapula L.G.Stana, AM.Jianu, AC.Ilie, LO.Grigoriță, MA.Vaida, CG.Matu, MC.Niculescu, AGM.Motoc.....73	Morphological Study of Retromolar Foramen MA.Vaida, LO.Grigorită, AM.Jianu, NS.Damen, CG.Matu, AC.Ilie, L.Stana.....82
Morphological Variability of the Hepatic Artery Proper Medial Branch. Study on Corrosion Casts GS.Stancu, L.Crăciun, R.Lupulescu, VB.Buciu, AM.Pusztai.....74	Anatomo-Clinical Aspects of the Abdominal Aorta and its Vascular Branches MA.Vaida, LO.Grigorită, AM.Jianu, NS. Damen, AM.Pusztai, C.Gug, I.Muntean.....83
Prevalence and Typology of Kidney and Urinary Tract Malformations. Dissection Based Study L.Stoican, DE.Zăhoi, D.Sztika, AM.Pusztai, E.Dăescu.....75	Steps Toward the Gross Digital Pathology Museum: Are We Ready For it? A.Văduva, C.Lăzureanu, R.Cornea, O.Vița, A.Gheju, A.Jurescu, I.Mihai, E.Olteanu, V.Lupu, M.Cornianu, A.Mureșan, S.Tăban, A.Dema.....84
Cadaveric Study of Diagonal Braches That Arise from the Left Anterior Descending Artery FR.Stoica, ZA.Stepanov, LO.Grigorită, MA.Vaida, E.Zhobro.....76	Morphological Aspects and Clinical Implications of Ectopic Parathyroid Tissue O.Vita, M.Cornianu, A.Văduva, S.Tăban, C.Lăzureanu, A.Jurescu, A.Gheju, I.Mihai, R.Cornea, A.Dema.....85
Cadaveric Study of the Left Coronary Artery of the Heart DF.Stefan, A.Serb, LM.Rosu.....77	Morphological Variations of Communicating Arteries of the Cerebral Arterial Circle and Their Clinical Importance DE.Zăhoi, D.Sztika, L.Stoican, AM.Pusztai, E.Dăescu.....86
Priority in Classification of Cervical Fasciae S.Suman, A.Suman, L.Suman.....78	The Anatomical Variation of the Origin of the Deep Brachial Artery Z.Zorina, I.Catereniuc.....87
Morphological Variation of Celiac Trunk Origin. A Dissection Based Study D.Sztika, DE.Zăhoi, L.Stoican, AM.Pusztai, E.Dăescu.....79	
The Ascending Aorta: A Comparative Study of Anatomical-Clinical and Ultrasound Investigation Data R.Țaga, P.Bînă, A.Lăzărescu.....80	
Spinal Nerves and Anterolateral Wall of Abdomen Hernias R.Turchin, G.Guzun, A.Bajora.....81	

TEACHING IN AN INTEGRATED CURRICULUM. THE PERSPECTIVE OF A RELUCTANT FACULTY MEMBER CRANIAL NERVES AND THEIR CLINICAL SIGNIFICANCE

Mircea-Constantin Şora¹

¹Sigmund Freud University, Vienna, Austria

The Sigmund Freud University Vienna (“SFU”) has an Institutional accreditation as a private university after the Austrian University Accreditation Act. The SFU offers at its main location Vienna a Medical degree programs (Bachelor and Master) and at the locations Vienna, Berlin, Linz, Ljubljana, Milan and Paris the courses Psychology (Bachelor and Master) and Psychotherapy Science (Bachelor, Mag., PhD, Habilitation) as well as associated postgraduate master programs.

For the development of the curriculum at the SFU Medical Faculty we used and consulted the reform Curricula of the Universities of Freiburg, Basel, Bern, Maastricht and the Berlin Charité and the RWTH Aachen. Moreover the special Austrian law was considered that newly approved study for human medicine have to be in accordance to the requirements of the Bologna Process for Enhancement mobility of students. The medical degree program is structured according to the Bologna architecture into a bachelor’s and a master’s degree, each of which can be completed individually. It is a modular system that organizes the recognition and therapy of disease-related problems of the human organism in interdisciplinary topics. The SFU offers at its main location Vienna following Medical degree programs: Bachelor of Medical Science for Human Medicine, Master of Medical Science for Human Medicine, Bachelor of Medical Science for Dental Medicine and Master of Medical Science for Dental Medicine.

The main focus of the medical degree program in human medicine is the acquisition of practical skills necessary for the practice of the medical profession, its theoretical and scientific foundation and the examination of diagnostic procedures with the aid of technical and communicative means. The mediation of these medical contents should generate a broad and lasting knowledge among the students, taking into account the current scientific knowledge, coupled with a cosmopolitan, critical and patient-oriented attitude. The medical education takes place on a scientific-practical and patient-related basis. Students will be prepared for their aspired profession with a problem-solving orientation and enabled to lifelong learning. The concept of this curriculum is based on the flexible acquisition of new forms of teaching and learning on the parallel acquisition of medical knowledge and scientific, communicative and psychosocial competences.

In the 1990s the Royal College of Physicians and Surgeons of Canada (RCPSC), responsible for setting residency training, examination and accreditation standards across the country asked its “Societal Needs Working Group” to “identify the core competencies generic to all specialists to meet the needs of society.” The result was the CanMEDS framework. The physician “Roles” concept was provided by the “Educating Future Physicians for Ontario” Project. The seven CanMEDS Roles or thematic groups of competencies, as defined by the framework have since obtained growing international acceptance in medical education as a well suited structure for catalogues of goals and objectives. So the Working Group decided to adopt these Roles to structure the General Objectives. A diagram was created in 2001 to illustrate the elements and the interconnections of the CanMEDS Roles embodied by competent physicians: Medical Expert (the central role), Communicator, Collaborator, Health Advocate, Manager, Scholar and Professional.

CanMEDS is a medical initiative for better patient care.

The SFU decided to adopt in his curriculum the CanMEDS model, so the graduates should be trained optimally for their medical profession. Therefore the medical curriculum was designed under special consideration of the design of the Austrian and Swiss Catalogue of Learning Objectives for Medical Training.

The degree program is divided into a Bachelor and a Master's degree program shared by six semesters each. The teaching is modular interdisciplinary organ- and system-centered. The basic concept is - following the example of German and Swiss Reform curricula - the unit of preclinical and clinical teaching. The goal here to develop students with a responsible medical attitude. The former "classic" concept "first theory, then practice" is dissolved. The curriculum focuses more on individual body parts and organ systems which are taught in blocks ("modules").

This new way in teaching is called "organ-centered learning". The medical curriculum is designed as a learning spiral. Starting from the first semester students are confronted with clinical disease pattern. Until the end of the sixth semester of the bachelor program each organ system is discussed in a preclinical and clinical unit. In the Master program the entire organ systems are taught at a higher level, including in the last year a clinical year.

One of the greatest challenges teaching in a new curriculum is the teaching staff. Most of medical teachers have undergone a "classic" teaching career and therefore there must be flexibility in approaching a new teaching concept. Anatomy is one of the classic disciplines suffering reorganization in a modular teaching curriculum. As an anatomy teacher the author describes the challenges that occur when restructuring didactical concepts.

Corresponding author

MD, PhD, Professor Dr. h.c. Mircea-Constantin Sora

E-mail address: constantin.sora@med.sfu.ac.at

HEPATIC PORTAL VEIN - CLINICAL APPLICABILITY THROUGH THE PRIMS OF IT'S ANATOMICAL VARIABILITY

Serghei Suman¹, Ala Suman², Lidia Suman³

¹Department of Topographic Anatomy and Operative Surgery,
„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova.

²Department Surgery № 1 ”Nicolae Anestiadi”,

„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova.

³Student. “Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

The Morphometric characteristics of hepatic portal vein [Vena portae hepatis] branches and tributaries of the vein, including and its forming variants, according to literature are variable. Anatomical variants of forming of the hepatic portal vein are the same as the ones of hepatic artery proper [Arteria hepatica propria] but the complexity of hepatic interventions made nowadays by interventional radiologists and surgeons, that include the embolization of hepatic portal vein, anatomical resection and transplant, determines recognition and understanding the normal anatomy and hepatic portal vein variants. Classic hepatic portal vein is formed from the fusion of mesenteric and splenic veins, which takes place behind the neck of the pancreas, at the level of L2 vertebral body, and its normal deviation from the classic form is common for 35%.

The study was based on the morphometric characteristics of the trunk of the hepatic portal vein and its tributaries, the frequency of typical and atypical variants of formation, inclusive and on hepatic portal vein variability clinical value on the base of speciality literature.

The various anatomical variants of formation of the hepatic portal vein trunk, branches and its tributaries results in the possibility of presupposition and execution of the high-tech medical techniques through vascular reconstructions, following the rules of radical surgery in oncological pathology, as well as choosing the perfect donor for liver transplantation. Summarily, from the classical anatomy to the place in the variational sequence known preoperatively, everything will lead to the minimization of intra- and postoperative complications, including liver ischemia.

The knowledge of the variants of formation of the hepatic portal vein, the fusion of its branches and tributaries, is important both for surgeons who practice techniques at this level as well as for imagists who interpret this data. To sum up, the appreciation of the place in the variational sequence of the classical anatomy of the hepatic port system, known preoperatively, as result will minimize the intra- and postoperative complications.

Corresponding author

MD.PhD, Associate Professor Serghei Suman

E-mail address: serghei.suman@usmf.md

CONFERENCE

CHALLENGES OF MEDICAL EDUCATION IN THE XXIST CENTURY

Marius Raica¹

¹"Victor Babeş" University of Medicine and Pharmacy, Histology, Timișoara, România

Medical education is a branch of cultural history, which has as main target the formation of new generations of specialists in health. From the Tibetan mimetics through the hieratic teaching in ancient Egypt to the inductive and then evidence-based, medical education has been developed by each society according to its necessities. What do we know today about medical education, as we were prepared to be doctors, but not teachers? Just memories, and scattered information from our own children and students. To begin, we'll make a comparison between the doctor of the old and new world. Currently, there are some scarring realities that we have to face and to adapt the curriculum accordingly, like IT attack, artificial tissues, artificial intelligence, regenerative medicine, virtual medicine, or robotic surgery. Therefore, what do we want to produce from faculty? Practicing doctors, candidates for residency, or doctors of the future? We must understand that each player of this game called education has his/her own aim, and usually, they are different from each other. Actually, teachers are driven by the curriculum, and students are driven by the examination. But changes of the society and needs of the doctor of the new world means that a significant change in the traditional curriculum is compulsory. This is why curriculum should contain theoretical and practical competences, skills, communication and professional attitudes, management and cooperation. The student is not only a pupil, but he/she must be involved in the teaching procedures. The tutorship is such a kind of involvement, and seems to work with very good results particularly in preclinical disciplines. Involvement of students in research is another chapter that should be explicitly included in the curriculum. Unfortunately, at present time, in our University only a minority of students are really involved in research, and I strongly suspect than less than 5% are well trained to do a good work. This is reflected by the quality of the graduates' final work, which must be upgraded in the next coming years. Applying the current curriculum we face many problems, like the lack of adaptation to actual necessities, big volume of theoretical data, less practical skills, different systems of evaluation. And does not include the identification of student native abilities. Slowly, sometimes too slow, the curriculum moves from teacher-centered to student-centered. Application of an integrated model of curriculum is not possible in possible in Timisoara nowadays because the high number of students and few teachers. How the future will be for medical education? It is not easy to predict, but there are some clues that help us to prepare the changes. It is a mistake to think to a single future and to directly extrapolate current tendencies. People usually overestimate the effects of changes on short term, and consistently underestimate the effects of changes on long term. The technology stimulates the change, and we will need profession that do not exist at present time. Virtual medicine shows many application in bot preclinical and clinical disciplines, microscopes were replaced with computers, simulators are commonly found in every faculty of medicine, and development of new soft in medicine is now the rule, not the exception. How will be a day from the life of a medical student in 2030? Most probably, conducted by artificial intelligence and the real teacher will be only a supervisor and involved in modeling the curriculum. This experiment already started at the University of Singapore in 2017... Therefore, the future is now!

Corresponding author
MD.PhD, Professor Marius Raica
E-mail adress: raica@umft.ro

CONNECTIONS OF THE FACIAL NERVE WITH REGIONAL

Angela Babuci¹, Iliia Catereniuc¹, Galina Certan¹,
Tatiana Botnari¹, Doina Botnaru¹

¹Department of Human Anatomy,
„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

KEYWORDS:

facial nerve, connections, branches.

INTRODUCTION

Superficial location of the extracranial branches of the facial nerve (FN) is one of its characteristic features that make it very susceptible to injuries in head traumas and facial surgery, and for recovery of damaged mimicry muscles connections of the FN with regional cranial nerves are of great clinical significance.

THE OBJECTIVES OF THE STUDY

To mark out the connections of the facial nerve with the regional cranial nerves.

MATERIAL AND METHODS

Our study was carried out on 53 adult cadaveric semiheads, out of which bilaterally were dissected 32, and unilaterally 21 samples. Connections of the extracranial branches of the facial nerve were pointed out and statistically processed.

RESULTS

Multiple and various connections of the facial nerve with the trigeminal nerve were marked out in all our cases. In 100% were revealed connections of the FN with auriculotemporal, supraorbital, infraorbital and mental nerves. Connections of the cervical branch with the transversus coli nerve were identified in all samples. The shape and number of connections varied even on the both sides of the same individual. Connections among the motor branches of the facial nerve were loop shape, triangular, quadrangular, linear, circular and irregular ones.

CONCLUSIONS

One of the main characteristic of the facial nerve connections regards their numerical and shape variability even in the same individuals that in our opinion is related to facial nerve and facial muscles development.

We consider that connections of the facial nerve with trigeminal nerve have clinical significance in recovery of damaged mimicry muscles in facial nerve disorders.

SELECTIVE REFERENCES

[1] Sataloff RT, Selber JC. Phylogeny and embryology of the facial nerve and related structures. Part II: Embryology. *Ear Nose Throat J.* 2003; 82(10):764-6, 769-72, 774.

[2] Cobo JL, Sole-Magdalena A, Menendez I, Vicente JC, Vega JA. Connections between the facial and trigeminal nerves: Anatomical basis for facial muscle proprioception. *JPRAS Open.* 2017; 12, 9-18.

[3] Cobo JL, Sole-Magdalena A, Janqueta S, Cobo T, Vega JA, Cobo J. The proprioception in the muscles supplied by the facial nerve. *Intechopen,* 2019, 1-14.

Corresponding author

MD, Assistant Professor, Angela Babuci
E-mail address: angela.babuci@usmf.md

CONGENITAL ANOMALIES OF DECEASED FETUSES AND INFANTS FROM EMERGENCY COUNTY HOSPITAL TIMISOARA.

**Robert Barna¹, Diana Szilagyi¹, Diana Herman¹, Denisa Anderco¹,
Mihaela Iacob¹, Cristian Suci¹, Remus Cornea^{1,2}, Anca Muresan^{1,2},
Simona Costi¹, Codruța Lăzureanu^{1,2}, Marioara Cornianu^{1,2},
Sorina Tăban^{1,2}, Alis Dema^{1,2}**

¹Pathology Department, 31st Surgery Clinic, 41nd Surgery Clinic,
"Pius Brînzeu" County Hospital Timișoara, 156 Liviu Rebreanu Boulevard, 300723, Timișoara, Romania.

²Department of Microscopic Morphology/ Morphopathology,
"Victor Babeș" University of Medicine and Pharmacy Timișoara,
2 Eftimie Murgu Square, 300041, Timișoara, Romania.

KEYWORDS:

malformation, perinatal death, necropsy

INTRODUCTION

Congenital malformations are anomalies of structure, function or metabolism, which are evident at birth or in the first part of the childhood. Some of these malformations are a cause of intrauterine death leading to significant perinatal mortality. Neonatal autopsy has a valuable role in the counseling of the families, as it can help the grieving process, improve parental understanding and alleviate concerns over prenatal events

THE OBJECTIVE OF THIS STUDY

is to identify and describe the frequency and types of congenital malformations in local population, in order to establish more efficient approaches for early diagnostic and prenatal counseling for another pregnancy.

MATERIAL AND METHODS

The present study includes 370 cases of fetal autopsy, performed at the Department of Pathology from Emergency County Hospital Timișoara, from 1st January 2016 until 30th November 2019. Autopsy was performed according to Romanian protocols. All data for this study was gathered from department's registry, with Pathology Department's Chief approval.

RESULTS

Out of 370 perinatal autopsies performed between 1st January 2016 and 30th November 2019, 40 cases were congenital anomalies, which included 24 males and 16 females (M:F = 1:1.5). Among these cases, 30 were therapeutic abortions, 1 case was stillbirth and 9 cases were live born. Each case was classified on the basis of gestational age. Congenital malformations were common

between 20-24 weeks, and there was no data for 7 cases. The most common congenital anomalies included omphalocele, cardio-vascular and renal malformations and head and neck anomalies.

In 9 cases were observed multiple congenital anomalies and 2 cases were diagnosed with Trisomy 21. Cardio-vascular malformations are represented by transposition of the great arteries, atrial septal defect, hypoplastic left heart syndrome, pulmonary atresia, single ventricle defect and one case of Rastelli Type B defect. Urogenital abnormalities included bilateral renal agenesis, horseshoe kidney, ectopic testis, polycystic kidney disease and adrenal hypoplasia. Other congenital anomalies observed were anencephaly, micrognathia, cleft lip, Spina Bifida, polydactyly, syndactyly, situs inversus of spleen and cecum, anal atresia and two cases of immature teratoma.

CONCLUSIONS

Fetal autopsy remains the gold standard for detecting the cause of death for intrauterine fetal death and confirming the anomalies detected on ultrasound. This will help in genetic counseling of the couple in order to reduce the recurrence risk in subsequent pregnancy.

SELECTIVE REFERENCES

[1] Fatima U, Sherwani R, Khan T, Zaheer S. Foetal autopsy-categories and causes of death. J Clin Diagn Res. 2014; 8(10):FC05-8.

[2] Gilbert-Barnes E, Debich-Spicer DE. Handbook of Pediatric Autopsy Pathology. New Jersey: Humana Press, 2010, p85-86.

Corresponding author

MD. Barna Robert-Alexandru

E-mail address: barna.robert27@gmail.com

ANATOMICAL VARIABILITY OF THE SMALL SAPHENOUS VEIN

Anastasia Bendelic¹, Iliia Catereniuc¹

¹Department of Human Anatomy,
„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

KEYWORDS:

lateral marginal vein, lateral foot perforator veins, small saphenous vein, saphenopopliteal junction.

INTRODUCTION

The superficial venous system of lower limb includes great and small saphenous veins and their highly variable anatomy make them to be a subject of interest. Chronic venous disease often receives less attention than arterial disease, but many aspects of venous disease are more complex.

THE OBJECTIVE OF THIS STUDY

The present study is conducted to observe the variations of the small saphenous vein in cadaver enlightening the clinical significance for a better therapeutic outcome.

MATERIAL AND METHODS

The 18 formolized lower limbs of both genders were dissected at the Department of Human anatomy.

RESULTS

Both origin and termination of the small saphenous vein (SSV) had a highly variable anatomy. The origin of the SSV was often a plexus (lateral malleolar plexus) formed by the lateral marginal vein (LMV). In two feet of a single cadaver the LMV was double originating from double venous arch. In 12 cases (66.7%) the SSV received 2 lateral foot perforator veins (LPVs) and 2-3 calcaneal perforator veins (CPVs). The LPVs were derived from lateral plantar veins and often joined into a common trunk giving rise to the main root of the SSV. According to the presence or absence of the saphenopopliteal junction (SPJ) we described four termination types of SSV. Type A: Normal SPJ located in the popliteal fossa without cranial extension of SSV 16,7% (n=3). Type B: No SPJ, the SSV continued on the thigh forming cranial

extension 50% (n=9). Type C: Both SPJ and cranial extension of SSV were present 27,7 % (n=5). Type D: No SPJ, the SSV drained into the medial gastrocnemius veins 5.6% (n=1). The intersaphenous anastomosis, Giacomini's vein, was described in 27.7% (n=5).

CONCLUSIONS

The SSV has a highly variable anatomy. The origin of the SSV is often a plexus. There are many types of the termination of SSV according to the presence or absence of SPJ.

SELECTIVE REFERENCES

- [1] Uhl JF, Lo Vuolo M, Gillot C. Anatomy of foot and ankle perforator veins. *Phlebology*. 2017; 24(2):105-12.
- [2] Anbumani TL, Anthony Ammal S, Thamarai Selvi A. An anatomical study on the variations of short saphenous vein and its termination. *Int J Med Res Health Sci*. 2016; 5(3):28-33
- [3] Kachlik D, Pechacek V, Baca V, Musil V. The superficial venous system of the lower extremity: new nomenclature. *Phlebology*. 2010; 25:113-23.

Corresponding author

PhD fellow, Anastasia Bendelic

E-mail address: anastasia.bendelic@usmf.md

MODIFICATIONS OF EXTRACELLULAR MATRIX COMPONENTS IN THE WALL OF VARICOSE SAPHENOUS VEINS

Anastasia Bendelic¹, Marius Raica²

¹Department of Human Anatomy,
„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

²Department of Microscopic Morphology / Histology, Angiogenesis Research Center,
“Victor Babeș” University of Medicine and Pharmacy, Timișoara,

KEYWORDS:

chronic venous disease, saphenous veins, extracellular matrix components.

INTRODUCTION

The veins, especially the saphenous veins contain more collagen than elastin. The predominant vascular collagens are types I and III. The reticular fibres (type IV collagen) are the major component of basal lamina of blood vessels. Although the etiology of varicose veins remains unknown, some changes in terms of distribution of the connective tissue fibres may result in venous wall disfunction in varicosis.

THE OBJECTIVE OF THIS STUDY

The varicose saphenous veins were obtained from 8 patients (age range 19-68 years) undergoing stripping saphenectomy at the Timofei Mosneaga Republican Clinical Hospital, Chisinau, Republic of Moldova.

MATERIAL AND METHODS

The varicose veins were fixed in formalin, embedded in paraffin and stained using histochemical staining methods: Masson`s trichrome (for collagen fibres), orcein staining (for elastic fibres), Gömöri`s silver impregnation (for reticular fibres).

RESULTS

According to CEAP classification of chronic venous disease five patients were at clinical stages CEAP2-3, other three patients at clinical stages CEAP4-6. Proliferation of the connective tissue was noticed inside the intima and between smooth muscle cells of the media in both groups of the patients. A much higher density of extracellular matrix components we found in patients at clinical stages CEAP4-6. Thus, at the earlier stages the smooth muscles cells were attached to each other firmly and showed sheet-like organization, at the later stages the

smooth muscle cells were disconnected because of the hyperproliferation of collagen fibres and their irregular distribution. The elastic fibres of the intima increased as the intima enlarged, but the density of elastic fibres of the media diminished. There was also a large amount of elastic fibres between the layers of the venous wall organized into lamellar sheets forming internal and external elastic laminae. We also noticed the disruption of the elastic laminae at the later stages (CEAP4-6) then the elastic fibres became irregular and fragmented. The reticular fibres were found in the intima and between muscle cells of the media, at the later stages of the chronic venous disease their amount diminished.

CONCLUSIONS

A greater density of collagen fibers in the intima and media, a loose arrangement of the smooth muscle cells in the wall of the great saphenous vein are characteristics for later stages of the chronic venous disease. Accumulation of the collagen fibres is associated with fragmentation of the elastic fibres.

SELECTIVE REFERENCES

- [1] Ghaderian SM, Khodaii Z. Tissue remodeling investigation in varicose veins. *Int J Mol Cell Med.* 2012; 1(1):50–61.
- [2] Janowski K, Sopinski M, Topol M. Changes in the wall of the great saphenous vein at consecutive stages in patients suffering from chronic vein disease of the lower limbs. *Folia Morphol (Warsz).* 2007; 66(3):185-9.
- [3] Cristóvão Porto L, Alves Azizi MA, Pelajo-Machado M, da Silveira PRM, Lenzi HL. Elastic fibers in saphenous varicose veins. *Angiology.* 2002 ;53(2), 131–40.

Corresponding author

PhD fellow, Anastasia Bendelic

E-mail address: anastasia.bendelic@usmf.md

THE INFLUENCE OF ADIPOSE DERIVED STEM CELL ON NERVE REGENERATION

Vlad Bloancă¹, Zorin Crăiniceanu¹, Ana Maria Cîmpean², Tiberiu Bratu¹

¹Department of Plastic Surgery, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Histology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

nerve regeneration, adipose-derived stem cells.

INTRODUCTION

Peripheral nerve surgery or nerve microsurgery may have reached its limits, the focus is being automatically directed to new resources such as tissue regeneration and one of these are the adipose derived stem cells.

THE AIM OF THE STUDY

The aim of the study was to assess the effect of autologous fat graft on nerve regeneration by creating a suitable experimental model.

MATERIAL AND METHODS

The rat sciatic nerve was used, transected and primary neurorrhaphy was used on both hind legs, but on one side a processed fat graft was applied, surrounding the nerve. The tracking and quantification of the results was accomplished by two means: the evaluation of the motor response of the gastrocnemius muscle - distal and innervated by the sciatic nerve -, while observing the evolutionary diameter of this muscle via musculoskeletal ultrasound, as well as via histological evaluation of the treated nerve fragment, along with a fragment of muscle distal to injuries. From the histological point of view, several types of staining were made: common (hematoxylin-eosin, Masson's trichrome), histochemical (Gordon-Sweet and Luxol Fast blue arginine impregnation), but also immunohistochemical (GFAP, NFAP, Prox1, AC133, OCT3 / 4, PGP 9.5, CD34 and MCT).

RESULTS

For the follow-up we used histological examination, at 4 and 10 weeks. The results showed increased and more organised neural regeneration on the side with the fat graft.

CONCLUSIONS

The adipose-derived stem cell has clearly demonstrated her capacity to transdifferentiate, but the specific role played is not clear. We wanted to explore the direct effect of this cell on direct neurorrhaphy. We did not observe a direct differentiation on Schwann like cell, but mostly an antifibrotic and an antiinflammatory effect.

SELECTIVE REFERENCES:

- [1] Raposio E, Caruana G, Bonomini S, Libondi G. A novel and effective strategy for the isolation of adipose-derived stem cells: minimally manipulated adipose-derived stem cells for more rapid and safe stem cell therapy. *Plast Reconstr Surg.* 2014; 133(6):1406-9.
- [2] Shomari DL, Williams Z, Butler PE, Kalaskar DM. Current progress in use of adipose derived stem cells in peripheral nerve regeneration. *World J Stem Cells.* 2015; 7(1): 51-64.
- [3] Zuk PA. The Adipose-derived Stem Cell: Looking Back and Looking Ahead. *Mol Biol Cell.* 2010; 21(11): 1783-7.

Corresponding author

MD, PhD, Assistant Professor Vlad Bloancă
E-mail adress: vlad.bloanca@gmail.com

INJECTED PLASTIC MATERIALS USED IN ANATOMY

**Sorin Bolintineanu¹, Laura Bolintineanu², Elena Pop¹,
George Stancu¹, Alina-Maria Şişu¹**

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Clinic of Ophthalmology, City Hospital Timișoara, Scuar Martir Radian Belici, No.4, 300011, Timișoara, România.

KEYWORDS

injected plastic materials, corrosion casts, kidneys

INTRODUCTION

Microscopic anatomy means to work with very small parts of human body. Taking into account a better preservation, some steps must be followed: a very detailed dissection of the organ, then fixation, slicing it and coloring. For detailed structures injection with plastic materials and plastination process complete are the most suitable.

THE OBJECTIVE OF THE STUDY

The objective of the study was to summarize the substances largely used in the anatomy laboratories for teaching purpose.

MATERIAL AND METHODS

We have dissected 31 formalized adult human parenchymatous viscera (kidney, liver), from 31 bodies of different age and gender, males and females, belonging to Anatomy and Embryology Laboratory. We have assessed in situ study all the specimens, in order to see the external morphological aspect and their relationship with the surrounding viscera. We have made 13 corrosion casts, and 16 specimens underwent a plastination process. The renal vasculo-ductal system has been injected with plastic materials (E950-AGO nitrocellulose, paste II), based on the method used by Nanu, Corondan and Bejan. Then, the renal and hepatic parenchyma has been subjected to corrosion with hydrochloric acid. All kidneys and liver underwent the S10 Biodur rubber silicone technique preservation.

RESULTS

The viscera undergoing the corrosion process have been studied in terms of intra parenchymatous variation, regarding the variability of the renal pedicle, which is even more difficult to achieve even by plastination. We have preserved full kidneys, plastinated sliced and corrosion specimens after plastic injection and subsequent corrosion. Our studies have

focused on the knowledge and evidence of macroscopic and mezosopic renal structures, renal segments, renal pyramids, renal vasculature, and normal anatomical variants. Corrosion techniques have shown, in our case, the existence of normal anatomical variants of variable morphology. The size, shape, color, and macroscopic appearance of the kidneys have been highlighted by plastination techniques using the S10 Biodur silicone technique.

CONCLUSIONS

We have noticed that acetone is an ideal desiccant solvent and is also a good degreasing agent for the kidneys, since containing a large amount of fat. However, due to the high cost it is advisable to use a mixture of acetone and ethanol. Plastination allows for anatomical specimens a high resistance to maneuvering as well as no toxicity. The use of plastination also allows the study of external and internal feature of specimens, both for medical and educational purposes. Plastic materials injection and corrosion affords the spatial study of renal vessels but also the identification of different renal morphological types.

SELECTIVE REFERENCES

- [1] Bolintineanu SL, Pop E, Stancu G, Stancu G, Vaida MA, Sisu AM, et al. Anatomical structures preservation using plastination techniques. *Mater Plast.* 2017; 54(2):221-4.
- [2] Ottone NE, Cirigliano V, Bianchi HF, Medan CD, Algieri RD, Borges Brum G, et al. New contributions to the development of a plastination technique at room temperature with silicone. *AnatSciInt.* 2015;90(2):126-35.
- [3] SoraMC, BinderM, MatuszP, PlesH, SasI. Slice Plastination and Shrinkage. *Mater Plast.* 2015;52(2):186-9.

Corresponding author

MD.PhD, Professor Sorin Bolintineanu

THE MANDIBULAR ROTATION AS A DETERMINANT FOR THE DEVELOPMENT OF THE MASSETERIC TUBEROSITY

Daniel Breban Schwarzkopf¹, Alexandru Ogodescu², Elena Pop³,
Alina-Maria Şişu³, Elena Samfirescu³, Sorin-Lucian Bolintineanu³

¹Medical Student, 6th Year, Faculty of Dental Medicine, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Discipline of Pedodontics and Orthodontics, Faculty of Dental Medicine, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

³Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

mandible, gonion, mandibular ramus.

INTRODUCTION

The masticatory muscles have a remarkable influence on the mandibular growth pattern, furthermore the masticatory activity tends to dictate the shape of the mandible. Based on this idea, the size and shape of the masseteric tuberosity is in a close relationship with the masticatory muscle tone and should differ for each of the mandibular rotation types.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate if there is a correlation between the mandibular growth rotation determinants (inclination of the condylar process of the mandible; mandibular canal curvature, shape of the lower border of the mandible, inclination of the mandibular symphysis, gonion angle) and the vertical and horizontal development of the masseteric tuberosity.

MATERIALS AND METHODS

12 adult mandibles were photographed and x-rayed, resulting in a total of 48 photographs (24 frontal, 24 lateral) and 24 radiographs (12 profile teloradiographs, 12 orthopantomographs) on which the following anatomical elements were evaluated: inclination of the condylar process of the mandible; mandibular canal curvature, shape of the lower border of the mandible, inclination of the mandibular symphysis, gonion angle and the development rate of the masseteric tuberosity.

RESULTS

The evaluations were based on fixed cephalometric and anatomical points. Furthermore, the typical values for an anterior rotation were noted with "a" and the typical values for a posterior rotation was noted with "p". A correlation between the horizontal and vertical development of the masseteric tuberosity and the rotational type of the mandible is noticeable.

CONCLUSIONS

Keeping in mind the tight relationship between the muscle tonus of the masticatory muscles and the rotational type of the mandible, it is interesting to see if this relationship can also be proven at an anatomical level. Therefore based on the rotational type of the mandible, the vertical and horizontal development of the masseteric tuberosity was evaluated.

SELECTIVE REFERENCES

- [1] Seres-Sturm L, Niculescu V, Matusz PL. Anatomie Cervico-Oro-Facială. Timișoara: Editura Mirton; 1997. 607p.
- [2] Kim KM, Sasaguri K, Akimoto S, Sato S. Mandibular rotation and occlusal development during facial growth. J. Stomat. Occ. Med. 2009; 2:122.
- [3] Fudalej P, Artun J. Mandibular growth rotation effects on postretention stability of mandibular incisor alignment. Angle Orthod. 2007; 77(2):199-205.

Corresponding author

Medical Student Daniel Breban Schwarzkopf
E-mail adress: ebreban@gmail.com

THE FEATURES OF THE MYOFIBROBLASTS AND LYMPHATIC MICROVASCULAR DENSITY IN THE COLORECTAL ADENOCARCINOMA

Amalia Raluca Ceaușu¹, Alexandru Găman², Pușa Gaje¹,
Anca Maria Cîmpean¹, Marius Raica¹

¹Department of Microscopic Morphology/ Histology, Angiogenesis Research Center,
"Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Surgery, "Vasile Goldiș" Western University of Arad,
Revoluției Boulevard, No. 94, 310396, Arad, România.

KEYWORDS:

myofibroblast, lymphatic microvascular density, colorectal adenocarcinoma.

INTRODUCTION

Colorectal pericryptal cells are myofibroblasts and they had important roles to promote the survival of colorectal cancer (CRC) stem cells, in the epithelial–mesenchymal interactions and in the induction of a higher rate of disease recurrence [1]. Some factors which significantly promotes angiogenesis, lymphangiogenesis and EMT/MET were described in the literature [2, 3]. Among them, the most important ones are α -SMA, whose increased expression by myofibroblasts.

THE AIM OF THE STUDY

The aim of the study was to analyzed the interrelation between the myofibroblast density, distribution and lymphatic microvascular density in the colorectal adenocarcinoma.

MATERIAL AND METHODS

A number of 39 biopsies from patients with colorectal adenocarcinoma were included in the present study. Immunohistochemical technique was performed with the Leica Bond-Max Autostainer (Leica Biosystems, Newcastle upon Tyne, UK). The primary antibody used was D2-40 (Abcam, 1:100, clone D2-40, incubation time- 30 minutes).

RESULTS

The following distribution of differentiation stages was found: G1 (1case), G2 (22 cases), G3 (7 cases). D2-40 immunoexpression was noticed in the cytoplasm of the myofibroblasts with a lower intensity comparatively with the lymphatic endothelium. A reduced number (1-3) of isolated or groups of positive activated myofibroblast

with higher density around the inflammatory infiltrate were present in the submucosa of the colon in the intermediate and poorly differentiated cases. D2-40 positive myofibroblasts were showed in the muscularis in the G2 and G3 stages, but absent in the G1stage. It was noticed isolated or small groups of positive myofibroblasts. A significant correlation was found between the lymphatic microvascular density from the normal mucosa and from the tumor area ($p=0.025$).

CONCLUSIONS

The myofibroblast could be considered a therapeutic target in the colorectal adenocarcinoma, for the intermediate and poorly differentiated colon adenocarcinoma.

SELECTIVE REFERENCES

[1] Yeung TM, Buskens C, Wang LM, Mortensen NJ, Bodmer WF. Myofibroblast activation in colorectal cancer lymph node metastases. *Br J Cancer*. 2013; 108(10):2106–15.

[2] Paduch R. The role of lymphangiogenesis and angiogenesis in tumor metastasis, *Cellular Oncology*, 2016; 39(5): 397- 410.

[3] Liang P, Hong JW, Ubukata H, Liu G, Katano M, Motohashi G, et al. Myofibroblasts correlate with lymphatic microvessel density and lymph node metastasis in early-stage invasive colorectal carcinoma, *Anticancer Res*. 2005; 25(4):2705-12.

Corresponding author

MD.PhD, Associate Professor

Amalia Raluca Ceaușu

E-mail address: ra.ceausu@umft.ro

THE HIGHLIGHTING OF THE TERMINAL BRANCHES OF THE EXTERNAL CAROTID ARTERY

Iulia-Camelia Ciobanu¹, Elena Samfirescu¹

¹Department of Anatomy and Embryology, "Victor Babes" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEY WORDS:

external carotid artery, terminal branches, superficial temporal artery, maxillary artery.

INTRODUCTION

The external carotid artery (ECA) emerges at the level of the carotid triangle, on the superior border of the thyroid cartilage of the larynx. It goes 4-5 cm above the angle of the mandible, where it ends and gives two terminal branches: superficial temporal artery and maxillary artery

THE OBJECTIVE OF THE STUDY

Because of its positioning, the ECA presents two segments: a cervical part and a cephalic part. We aim to underline the cephalic part of the ECA together with its terminal branches.

MATERIAL AND METHOD

The present study was performed in the Laboratory of the Discipline of Anatomy and Embryology of the University of Medicine and Pharmacy „Victor Babes” Timisoara using some preserved pieces of dissection, from which we choose a representative one. We select the material after some years of study, while we try to put in evidence as much elements as we need for this paper. The study was performed using 12 cadavers. We start by incising and rising up the superficial cutaneous flap, removing the fasciae, the parotid gland, the muscular parts, followed by sectioning the ramus of mandible together with the gonion. In order to highlight the terminal branches of the ECA, it was mandatory to prepare the cephalic part and to follow its trajectory.

RESULTS

When the ECA passes from the cervical part to the cephalic part it is situated beneath the posterior belly of the digastric and stylohyoid muscles. After that, it goes deep in parotid parenchyma, and after 4-5cm superior from the angle of the mandible it splits in two terminal branches represented by the superficial temporal artery and the maxillary artery. From the origin, the trajectory

of the superficial temporal artery is toward superior and a little bit lateral, being situated anterior in relation with the superficial temporal vein and the auriculotemporal nerve. Above 2-3 cm to the zygomatic arch, it splits in two terminal branches, one anterior or frontal artery and the other one posterior or parietal artery. The maxillary artery is the profound and internal branch of bifurcation of the ECA. From the origin, it goes anterior and superior toward the infratemporal region and after that it changes the direction, in a discreet way, toward anterior and lateral, a little bit oblique, on the internal aspect of the lateral pterygoid muscle. We succeed to highlight a part of the collateral branches, the masseteric artery and the inferior alveolar artery (with its branch, the mylohyoid artery).

CONCLUSIONS

In order to highlight the terminal branches of the ECA, it was necessary to do a precise delimitation of the studied territory not to endanger the other anatomical elements that pass through the parotid gland or present relations with the ECA and its terminal branches. The data obtained after this study made us understand one more time, the complexity of the region, the individual peculiarities with major effect in the medical practice.

SELECTIVE RECERENCES

- [1] Rusu MC, Măru N, Rădoi PM, Dincă D. Trifurcated external carotid artery and complete gamma-loop of its maxillary branch. *Surg Radiol Anat.* 2019; 41(2):231-4.
- [2] Devadas D, Pillay M, Sukumaran TT. A cadaveric study on variations in branching pattern of external carotid artery. *Anat Cell Biol.* 2018; 51(4):225-31.
- [3] Rao TR. Unusual branching pattern of the external carotid artery in a cadaver. *Chang Gung Med J.* 2011; 34(6 Suppl):24-7.

Corresponding author

MD.PhD, Assistant Professor Iulia-Camelia Ciobanu
E-mail adress: iulia_ciobanu2006@yahoo.com

THE PERICYTE AND ITS CENTRAL ROLES. A REVIEW

Șerban Comșa¹

¹Department of Microscopic Morphology/ Histology, Angiogenesis Research Center,
"Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

capillary, endothelial cell, pericyte, stem cell.

INTRODUCTION

Pericytes were first characterised by Eberth and Rouget in the 1870s, but the concept of pericyte has been changing over years. This cell type was believed to possess only a function of trophic support to endothelial cells and to maintain vasculature stabilization. In the last years, the discovery of multipotent ability of perivascular populations led to the concept of vessel wall niche.

THE OBJECTIVE OF THE STUDY

The objective of our study was to analyze the current scientific knowledge regarding the pericyte.

MATERIALS AND METHODS

In order to assess our objective, we have reviewed the literature published in Pubmed in the interval 2016-2019 and we noted the new directions involving the pericyte and its major functions.

RESULTS

We resume in the following paragraphs the new features identified in the pericytes as it resides from the literature review. The presence of pericytes with multipotency and broad distribution along the capillary suggests that microvasculature plays a role not only as a duct for blood fluid transport, but also as a stem cell niche that contributes to tissue maintenance and regeneration. Pericytes clearly exist in different subtypes and this involves a diversity of function. Pericytes have been reported to control cerebral blood flow physiologically and to limit blood flow after ischaemia. In response to traumatic brain injury, epilepsy, and neurodegenerative disorders, deconstruction and reactivity of pericytes and glial cells around the capillary endothelium occur, thus impacting vascular permeability and participating in neuroinflammation. The dynamic interplay between pericytes and endothelial cells is at the basis of vascular physiology and few experimental tools exist to properly describe and study it. Pericytes are recruited on the developing sprout by proliferation, migrate independently from endothelial cells and can proliferate on the growing capillary. The communication between

pericytes and endothelial cells has been applied to the induction of vessel neoformation in tissue engineering.

Pericytes have specific functionality in tumor microenvironments, properties of potent stem cells, and plasticity in cellular pathology. These features of pericytes can be activated for the promotion or reduction of angiogenesis. Some studies suggest that there may be an important interaction of pericytes with tumor cells and other components of the tumor microenvironment in malignant primary glial neoplasms. In addition, it has been shown that the mesenchymal products generated by epithelial-to-mesenchymal transition (EMT) often express multiple pericyte markers, associate with and stabilize blood vessels to fuel tumor growth, thus phenotypically and functionally resembling pericytes. Therefore, some EMT events represent epithelial-to-pericyte transition. Frontier studies have exploited pericyte-targeting drug delivery, using pericyte-specific peptides, small molecules and DNA in tumor therapy.

CONCLUSIONS

The pericytes represent a multipotent, versatile population, with a high ability to involve in complex pathological processes. Understanding their function may represent the key for the treatment of multiple diseases they are involved in.

SELECTIVE REFERENCES

- [1] Attwell D, Mishra A, Hall CN, O'Farrell FM, Dalkara T. What is a pericyte? *J Cereb Blood Flow Metab.* 2016; 36(2):451–5.
- [2] Mangialardi G, Cordaro A, Madeddu P. The bone marrow pericyte: An orchestrator of vascular niche. *Regen Med.* 2016; 11(8):883–95.
- [3] Lu J, Shenoy AK. Epithelial-to-pericyte transition in cancer. *Cancers.* 2017;9(7):1–13.

Corresponding author

MD.PhD, Senior Lecturer Șerban Comșa
E-mail address: serban.comsa@umft.ro

THE PODOCYTE: MORPHOLOGY, FUNCTION AND DYSFUNCTION

Andrei Alexandru Cosma¹

¹Department of Microscopic Morphology/ Histology, Angiogenesis Research Center,
"Victor Babeş" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

podocyte, podocytopathies, glomerulonephritis.

HISTOLOGY

The podocyte is a specialized cell form the kidney parenchyma forming the visceral layer of the Bowman capsule (visceral epithelial cell). It is situated on the external pouring capillaries of the glomerulus. It has its origin from the mesodermal tissue. Morphological, the cell has a bulky cell body, being polygonal in shape. It has a large nucleus with fine granular chromatin and the cytoplasm has acidophil components. The cellular membrane presents C3b complement receptors in its structure. From the podocyte cell body, come off long processes, called foot projections, or pedicels, which wrap around the capillaries forming connections with the basement membrane. Even more, it has been showed that the podocalyxin protein (PODXL) take part of pedicels membrane structure. The electronic microscopy shows a variety of microtubules, microfilaments, vimentin and desmin filaments, a developed endoplasmic reticulum and a large Golgi apparatus (showing the high capacity for protein synthesis).

HISTOPHYSIOLOGY

The podocyte has an important role by secreting components of the glomerular basement membrane, but also it is involved in regulation of glomerular filtration rate and phagocytosis. The pedicels core is rich in actin filaments, therefore they took part of the slit pore diaphragm restricting the passage of large macromolecules such as albumin and gamma globulin ensuring that they remain in the bloodstream, however water and glucose can pass. The implication of the podocytes in glomerular filtration avoids losing proteins in urine.

PATHOLOGY

The main result of podocyte injury reflects on degradation of actin filaments from the pedicels, a maladaptation found in different glomerulopathies.

Podocytopathies etiology is varied: genetic disorders, diphtheria toxin, immunological diseases. On the other hand, it is known that podocytes do not regenerate after injury.

CLINICAL IMPLICATIONS

In glomerulonephritis rapidly progressive, the podocyte, T cells, macrophages and fibroblasts all together form the crescents (pathological substrate of RPGN). The patient presents hematuria, proteinuria, asthenia and pallor. On the other hand, in minimal change glomerulopathy, the electronic microscopy reveals tumefaction of podocytes with merged pedicles. Patients present nephritic syndrome: massive proteinuria > 3.5g/1.73m²/24h, hypoalbuminemia, hypoproteinemia, hyperlipidemia, lipiduria, edema.

CONCLUSIONS

The present review underline the important roles played by podocytes in normal and pathological conditions.

SELECTIVE REFERENCES

- [1] Yu SM, Nissaisorakarn P, Husain I, Jim B. Proteinuric Kidney Diseases. A Podocyte's Slit Diaphragm and Cytoskeleton Approach. *Front Med (Lausanne)*. 2018; 5:221.
- [2] Singh L, Singh G, Dinda AK. Understanding podocytopathy and its relevance to clinical nephrology. *Indian J Nephrol*. 2015; 25(1):1-7.
- [3] Garg P. A Review of Podocyte Biology. *Am J phrol*. 2018; 47(1): 3-13.

Corresponding author

MD, PhD student, Andrei Alexandru Cosma
E-mail address: andreicosma93@yahoo.com

LEVEL OF THE ORIGIN AND DISTRIBUTION OF THE REPLACED RIGHT HEPATIC ARTERY. MORPHOLOGICAL STUDY BY MDCT ANGIOGRAPHY

Adina-Nadia Costea¹, Nicoleta Iacob², Raul Lupulescu³, Horia Pleş^{2,4},
Petru Matusz¹

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Multidetector Computed Tomography and Magnetic Resonance Imaging, Neuromed Diagnostic Imaging Centre, Timișoara, 16 Decembrie 1989 Bulevard, No. 43, 300218, Timișoara, România.

³Medical student VADA, 5th Year, Faculty of Medicine, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

⁴Department of Neurosurgery, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

replaced right hepatic artery, origin, anatomical variations.

INTRODUCTION

An important percentage of the arterial sources of the liver are represented by aberrant hepatic arteries (replaced or accessory). According to current anatomical-surgical literature, a replaced hepatic artery is a vessel that does not originate from an orthodox position and provides the sole supply to that lobe.

THE OBJECTIVE OF THE STUDY

The major objective of this study is to highlight on a significant number of cases the level of origin of the replaced right hepatic artery (RRHA).

MATERIAL AND METHOD

A total of 565 patients with a medical history of peripheral vascular disease of the lower limbs were examined for mapping the lower limb vascular lesions with MDCT angiography (64-slice MDCT system; SOMATOM Sensation, Siemens Medical Solutions, Forchheim, Germany) at Neuromed Imaging Center Timisoara. In addition, the levels of origin of the RRHA were analyzed. From all patients it was obtained a written informed consent regarding: (i) the X-ray examination and the use of iodinated contrast agents; (ii) using the utility of obtained information in scientific research.

RESULTS

From the total of 565 examined cases, 100 cases presenting RRHA (17.70%) were highlighted.

We have individualized 5 different levels of origin of RRHA, which in order of frequency were: (i) superior mesenteric artery in 81% of cases; (ii) celiac trunk in 14% of cases; (iii) abdominal aorta 3% of cases; (iv) splenic artery in 1% of cases; (v) inferior pancreaticoduodenal artery in 1% of cases. In all cases examined, the terminal branches of the RRHA are distributed to the V-VIII segments of the hepatic parenchyma.

CONCLUSIONS

Knowing the frequency and level of origin of RRHA is particularly important in planning and performing duodenum-pancreatectomy.

SELECTIVE REFERENCES

- [1] Fonseca-Neto OCLD, Lima HCS, Rabelo P, Melo PSV, Amorim AG, Lacerda CM. Anatomic variations of hepatic artery: a study in 479 liver transplantations. *Arq Bras Cir Dig*. 2017; 30(1):35-7.
- [2] Dandekar U, Dandekar K, Chavan S. Right Hepatic Artery: A Cadaver Investigation and Its Clinical Significance. *Anat Res Int*. 2015; 2015:412595.
- [3] Staśkiewicz G, Torres K, Denisow M, Torres A, Czekajska-Chehab E, Drop A. Clinically relevant anatomical parameters of the replaced right hepatic artery (RRHA). *Surg Radiol Anat*. 2015; 37(10):1225-31.

Corresponding author

MD., PhD Student in Anatomy

Adina-Nadia Costea

E-mail address: adina.costea@yahoo.com

ANATOMICAL CONSIDERATIONS ABOUT COLLATERAL PATHWAYS IN AORTOILIAC OCCLUSION

Lavinia Crăciun¹, George Silviu Stancu¹, Marius Murariu^{2,3}, Codruț Ivan^{2,3}

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Surgical Clinic I, Department of Surgery II, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

³Clinic of Surgery I, „Pius Brânzeu” Emergency County Clinical Hospital Timișoara, Liviu Rebreanu Blv. No. 156, 300723, Timișoara, România.

KEYWORDS:

aortoiliac occlusion, collateral pathways, anatomy.

INTRODUCTION

Robert Graham from Glasgow was the first surgeon to describe aortoiliac occlusive disease in 1814. In 1923 the French surgeon René Leriche described the thrombotic disease of the end of the aorta, which in time was identified by its name (Leriche syndrome).

THE OBJECTIVE OF THE STUDY

The objective of this study is to highlight the anatomical collateral pathways formed in the cases of occlusion of the main arterial axis from the aortic infrarenal level to the level of the external iliac arteries.

MATERIAL AND METHODS

In the present study, one used MDCT angiographic images of two clinical cases with aortoiliac occlusive disease with an evolution of more than five years which showed two distinct groups of arterial collaterals: (i) systemic – systemic collateral pathways; (ii) visceral – visceral collateral pathways.

RESULTS

Within the first group, the one of the systemic – systemic collateral pathways, were highlighted: (i) subclavian artery - internal thoracic artery - superior epigastric artery - inferior epigastric artery - external iliac artery; (ii) lower intercostal arteries, subcostal artery, lumbar arteries - the deep circumflex iliac artery (ascending branch) - external iliac artery; (iii) lower intercostal arteries, subcostal artery, lumbar arteries - iliolumbar artery - internal iliac artery. (iv) abdominal aorta - median sacral artery - iliolumbar artery, lateral sacral arteries - internal iliac artery.

Within the second group, the one of the visceral – visceral collateral pathways, we revealed:

(i) superior mesenteric artery - arc of Riolan- arcade of Drummond) inferior mesenteric artery; (ii) inferior mesenteric artery - superior rectal artery – rectal plexus - middle rectal artery - internal iliac artery.

CONCLUSIONS

The realization of collateral pathways requires a chronic, long-term aspect of the development of aortoiliac occlusions. Knowing these collateral pathways is particularly useful in planning and performing complex surgical procedures in the sphere of vascular and cardiac surgery, as well as in plastic and reparative surgery.

SELECTIVE REFERENCES

[1] Wooten C, Hayat M, du Plessis M, Cesmebasi A, Koesterer M, Daly KP, et al. Anatomical significance in aortoiliac occlusive disease. *Clin Anat.* 2014; 27(8):1264-74.

[2] Dattilo PB, Tsai TT, Garcia JA, Allshouse A, Casserly IP. Clinical outcomes with contemporary endovascular therapy of iliac artery occlusive disease. *Cathet Cardiovasc Interv.* 2012; 80:644–54.

[3] Arnold JR, Greenberg JD, Clements S. Internal mammary artery perfusing the Leriche's syndrome. *Ann Thorac Surg* 2000; 69: 1244–6.

Corresponding author

MD, PhD. Assistant Professor Lavinia Crăciun
E-mail adress: crăciun.lavinia@umft.ro

ABSTRACT

MYOID CELL OF THE HUMAN THYMUS: A STRANGER IN THE NIGHT OF MYASTHENIA GRAVIS

Andrei Dragoş Cumpănaş¹, Raluca Ştefana Ioana Moş¹,
Anca Maria Cîmpean¹, Marius Raica¹

¹Department of Microscopic Morphology/ Histology, Angiogenesis Research Center,
"Victor Babeş" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

myoid cells, myasthenia gravis, desmin, immunohistochemistry, acetylcholine receptor, muscle creatine kinase, Myf5, myogenin.

INTRODUCTION

Myoid cells are of common occurrence in the medulla of the thymus of different species, usually identified by electronmicroscopy and/ or immunohistochemistry.

STRUCTURE

Myoid cells have common features with skeletal muscle fibers. In electron microscopy, myoid cells possess an irregular nucleus, with fine chromatin granules and a distinct nucleolus. Myofibrils are arranged around this central nucleus, giving this cell a characteristic banding. The cytoplasm of the myoid cells, with large amounts of myofibrils, has different patterns of organisation of myofibrils, ranging from concentric perinuclear arrangement to parallel-to-cell-surface arrangement. These features could motivate the role of myoid cells (TMCs) in contraction or in the cell trafficking of the thymus. Immunohistochemically, TMCs express acetylcholine receptor (AChR), MCK (muscle creatine kinase), muscle associated tyrosin kinase receptor (Musk), rapsyn, utrophin, ErbB2, ErbB3 and troponin T

MYOID CELLS AND MYASTHENIA GRAVIS

Although known from many decades, the role of myoid cells in normal conditions is virtually unknown. Many investigators suggested that myoid cell is a crucial player in myasthenia gravis. Myasthenia gravis is an autoimmune disease, characterized by the production of auto-antibodies that act on the neuromuscular junction further interfering with the transmission of the depolarization wave. Although the exact pathogenesis mechanism of myasthenia gravis is still unknown, myoid cells in the thymus might play an important role in the

initiation of this condition. This presentation will review the role of myoid cells of the thymus while trying to establish their possible implications in myasthenia gravis.

SELECTIVE REFERENCES

- [1] Toyka KV, Drachman DB, Griffin DE, Pestronk D. Myasthenia gravis study of humoral immune mechanisms by transfer to mice. *The New England Journal of Medicine*. 1977; 296:125–31.
- [2] Vincent A: Unravelling the pathogenesis of myasthenia gravis. *Nature Reviews Immunology*. 2002; 2:797–804.
- [3] Berrih-Aknin S, Frenkian-Cuvelier M, Eymard B: Diagnostic and clinical classification of autoimmune myasthenia gravis. *Journal of Autoimmunity*. 2014; 48–49: 143–8.
- [4] Phillips WD, Christadoss P, Losen M, et al. : Guidelines for pre-clinical animal and cellular models of MuSK-myasthenia gravis. *The Journal of Experimental Neurology*. 2015; 270: 29–40.
- [5] Wolfe GI, Kaminski HJ, Aban IB, et al. Randomized trial of thymectomy in myasthenia gravis. *The New England Journal of Medicine*. 2016; 375: 511–52.

Corresponding author

Medical Student Andrei Dragos Cumanas
E-mail address: andrei_cumpanas@yahoo.com

LEVEL OF THE ORIGIN AND DISTRIBUTION OF THE MORPHOLOGICAL CONSIDERATIONS ON THE VARIATION OF GONADAL VEINS AND CLINICAL IMPLICATIONS. STUDY BASED ON DISSECTION

Adina-Ecaterina Dăescu¹, Agneta Maria Pusztai¹, Luminioara-Maria Roșu¹,
Dorina Sztika¹, Delia-Elena Zăhoi¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

gonadal arteries, gonadal veins, dissection, morphologic variability.

INTRODUCTION

The gonadal vessels are subject to significant morphological variability. These variants' impact on gonadal blood supply or drainage can influence the organs' pathology. Additionally, knowledge of such variants is essential to surgical procedures in the retroperitoneal space.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate morphological variation in gonadal vascularisation, due to its importance in gonadal physiology as well as in gonadal and renal surgery.

MATERIAL AND METHODS

The study involved classic dissection, within the Department of Anatomy and Embryology of our University and was conducted on a set of 30 adult human cadavers.

RESULTS

The study material was analyzed for morphologic variations of gonadal arteries and veins. The majority of arterial variants identified were of origin. 13.33% of the cases had gonadal arteries originating from the abdominal portion of the aorta, at a level superior to the origin of the renal arteries (one case on the right and three cases on the left). 16.67% of cases showed the two gonadal arteries with origins at different levels: one superior to the renal artery (high origin), and the other anterior to the inferior mesenteric artery (low origin). The gonadal veins presented a higher variation (both numerically and topographically). 10% of the cases showed the right sole gonadal vein to have drained in

the right renal vein. 10% of the cases each had two right gonadal veins with different drainage paths: one into the right renal vein, and the other into the inferior vena cava. 6.67% of cases each had 2 left gonadal veins draining into the left renal vein. In one case, the left gonadal vein received an inferior renal vein as an affluent before draining into the left renal vein.

CONCLUSIONS

Along with a good understanding of renal vascularisation, urologic surgery needs to take into account the high variability of gonadal vascularisation. Knowledge of gonadal vascular variants is essential in pre-operative assessment of patients and may also lead to improvements in surgical techniques.

SELECTIVE REFERENCES

- [1] Gupta R, Gupta A, Aggarwal N. Variations of gonadal veins: embryological prospective and clinical significance. *J Clin Diagn Res.* 2015, 9(2):AC08-AC10.
- [2] Kotian S R, Pandey A K, Padmashali S, Jaison J, Kalthur S G. A cadaveric study of the testicular artery and its clinical significance. *J Vasc Bras.* 2016, 15(4):280-6.
- [3] Ozan H, Gümüőalan Y, Önderođlu S, Őimőek C. High origin of gonadal arteries associated with other variations. *Annals of Anatomy - Anatomischer Anzeiger.* 1995; 177(2):157-60.

Corresponding author

MD.PhD, Assistant Professor Ecaterina Dăescu
E-mail adress: tinadaescu@yahoo.com

INDIVIDUAL VARIANTS OF THE STRUCTURE AND DIMENSIONS OF THE PANCREATIC DUCT

Irina Drangoi^{1,2}, Olga Belic², Adela Turcanu¹

¹Department of Internal Medicine / Gastroenterology Discipline,

²Department of Human Anatomy,

„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

KEYWORDS

pancreatic duct, variations.

INTRODUCTION

In healthy individuals, the shape of the pancreatic duct is variable, and diagnostic conclusions cannot be based on shape alone. The dilated pancreatic duct is a commonly encountered clinical entity. A dilated pancreatic duct can arise from benign or malignant disease or can be a variant of normal in the right clinical setting. A pancreatic duct can be dilated secondary to chronic pancreatitis. Lastly, a pancreatic duct can be dilated as a result of aging or normal physiologic processes.

AIMS:

The current study aims to study the individual variability of the structure and dimensions of the pancreatic ducts based on the analysis of the results of our own investigations.

MATERIAL AND METHODS

Individual variants of pancreatic duct structures were studied on organ complexes by macroscopic dissection (8 pancreatic and duodenal complexes - Elderly group). The dimensions of the pancreatic ducts on an alive person, ultrasound, were studied based on the analysis of the observation cards in the archive of the Sanitary Public Institution in the city of Grigoriopol (107 patients, age groups IX and X (Elderly and Senility group)). Analysis and processing were performed using descriptive statistics.

RESULTS

In the complexes studied, the pancreatic duct had a magistral structure. In this form, the duct passed from the tail to the large papilla, gradually increasing in diameter. In the head region, the pancreatic duct in men was 3.8 ± 0.22 mm and female 3.1 ± 0.56 mm. In group IX (61-74 years), in men according to the echographic data, the pancreatic duct was 3.1 ± 0.58 mm; in women group IX (56-74 years) – 2.8 ± 0.74 mm. In group X, in

men (75-90 years), the pancreatic duct dimensions were 3.3 ± 1.12 mm and in women (75-90 years) – 2.9 ± 0.54 mm.

CONCLUSIONS

In senility the size of pancreatic ducts increase with age.

SELECTIVE REFERENCES

[1] Adler DG, Anderson MA. The Dilated Pancreatic Duct. Ercp. Chapter: 37, 2019.

[2] Ding H, Zhou P, Xu M, Chen W, Li Q, Chen T, et al.. Combining endoscopic ultrasound and tumor markers improves the diagnostic yield on the etiology of common bile duct dilation secondary to periampullary pathologies. Ann Transl Med. 2019; (14):314.

[3] Adibelli ZH, Adatepe M, Imamoglu C, Esen OS, Erkan N, Yildirim M. Anatomic variations of the pancreatic duct and their relevance with the Cambridge classification system: MRCP findings of 1158 consecutive patients. Radiol Oncol. 2016; 50(4):370-7.

Corresponding author

MD.PhD, Senior Lecturer Irina Drangoi

E-mail adress: drangoiirina@gmail.com

LEIOMYOMA OF THE BROAD LIGAMENT OF THE UTERUS. CASE REPORT OF AN INCIDENTAL FINDING

Alexandra-Corina Faur¹, Alina-Maria Şişu¹, Laura-Octavia Grigoriţă¹,
Loredana-Gabriela Stana¹, Sorin Lucian Bolintineanu¹

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

leiomyoma, uterus, the broad ligament.

INTRODUCTION

Although leiomyoma is a common benign tumour of the uterus in the broad ligament the incidence of leiomyomas is less than 1% of the cases. Other sites for the occurrence of extrauterine leiomyoma are the round ligament, ovarian ligament, fallopian tubes and the ovaries.

THE OBJECTIVE OF THE STUDY

To present a case of a leiomyoma of the broad ligament. Although leiomyoma is a common benign tumor of the uterus the incidence of leiomyoma localised in the broad ligament of the uterus is found in less than 1% of the extrauterine tumors.

MATERIAL AND METHODS

A 73-year-old woman presented to the Oncological Surgery Department, City Hospital of Timisoara, with a diagnosis of cervix dysplastic lesion. After the evaluation of the case, clinical and radiological examination revealed a left sided mass in the pelvic region suspected to be a tubo-ovarian mass. The uterus, parametrium, ovaries and fallopian tubes were resected with the removal of the regional lymph nodes also.

RESULTS

The microscopic description showed an epithelial malignant tumor involving the uterus with a benign tumor localised in the broad ligament. The histopathological diagnosis was of a squamous cell carcinoma invading the uterus with a 5/3.5/3.5 cm broad ligament mass that proved to be a leiomyoma.

CONCLUSIONS

We report a broad ligament leiomyoma to emphasize the importance of rare tumors in the differential diagnosis of the pelvic tumors.

SELECTIVE REFERENCES

- [1] Kumari R, Kulshrestha V, Sharma JB, Kriplani A. A case of broad ligament leiomyoma presenting as an ovarian mass. *Int J Reprod Contracept Obstet Gynecol.* 2017; 6(6):2635-7.
- [2] El-Agwany AS. Huge broad ligament fibroid with paracervical extension: A safe approach by same setting myomectomy before hysterectomy. *J Med Ultrasound.* 2018; 26:45-7.
- [3] Sikora-Szczeńsiak DL. Leiomyoma cellulare in the broad ligament of the uterus. *Menopause Rev.* 2018; 17(1): 49-52.

Corresponding author

MD.PhD, Senior Lecturer Alexandra-Corina Faur
E-mail adress: faur.alexandra@umft.ro

TERATOMAS IN PEDIATRIC AGE GROUP: A 5-YEARS RETROSPECTIVE STUDY

Alexandra-Corina Faur¹, Sorin-Lucian Bolintineanu¹,
Loredana-Gabriela Stana¹, Rodica Heredea²

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Pathological Anatomy Laboratory, "Louis Turcanu" Emergency Clinical Hospital for Children Timișoara, Street Doctor Iosif Nemoianu 2, 300011, Timișoara, România.

KEYWORDS:

germ cell tumors, teratoma, pediatric age pathology.

INTRODUCTION

Teratomas are benign common germ cell tumors in children composed of tissue derived from two or three germ cell layers.

THE OBJECTIVE OF THE STUDY

In this study were reviewed in retrospect all the teratomas diagnosed at the Pathological Anatomy Laboratory, "Louis Turcanu" Emergency Hospital for Children Timisoara over a period of 5 years. Germ cell tumors containing only malignant component, but no mature or immature teratomatous tissues were excluded from the series

MATERIAL AND METHODS

All the specimens that had a pathological diagnosis of teratoma that were received during our study period were included. The clinicopathological data were retrieved from the records. The slides were reevaluated, classified and discussed.

RESULTS

We found 15 children with teratoma diagnosed in 5-years period, 2 males and 13 females with ages from 16 days-old to 17-years old. Tumors arose in the following anatomic sites: sacrococcygeum (n = 1), mediastinum (n = 1), ovary (n = 10), testis (n = 1), face region (n = 1) and oral cavity (n = 1). The most common lesions were mature teratomas with only 2 cases with mature teratoma but with an immature component. The cases with immature component were females, one of 2 months-old, a sacrococcygeum tumor and grade 3 immature teratoma areas and one of 16 years-old with an right ovarian tumor a 60% immature component and a 15% component of Yolk sac tumor. The 16-years old case recurred 2 years later with a mature teratoma implants localised inferiorly to the diaphragm. The

tumors were composed of derivatives of ectoderm, endoderm and mesoderm in most cases (n=12), with 2 cases having only ectoderm derivatives and one case with ectoderm and mesoderm derivatives. The size of the tumors varied from 3.8/2.2/1.6 cm to 18.5/13.8/9.5 cm, there were mostly cystic lesions with a content of hair, teeth and bone and some solid areas.

CONCLUSIONS

In our study there was a high incidence of teratoma in females with an ovarian localisation mostly. A low incidence of immature teratoma was present and only one case had a malignant component. Only one case recurred.

SELECTIVE REFERENCES

- [1] Lo Curto M, D'Angelo P, Cecchetto, Klersy C, Dall'Igna P, Federico A, et al. Mature and immature teratomas: results of the first paediatric Italian study. *Pediatr Surg Int.* 2007; 23:315–22
- [2] Rattan NK, Yadav H, Srivastava D, Rattan A. Childhood sacrococcygeal teratoma: a clinicopathological study. *Jour Ped Neo Individualiz Med.* 2019; 8(1):e080116
- [3] Win TT, Razy F, NHM, AB Hamid SS, Balasubramanian A, Ramalinggam G: Congenital Mature Cystic Teratoma of the Neck. *Turk Patoloji Derg.* 2014; 30:220-4.

Corresponding author

MD.PhD, Senior Lecturer Alexandra-Corina Faur
E-mail adress: faur.alexandra@umft.ro

SELENIUM ADMINISTRATION IMPACT ON FEMALE GENITAL SYSTEM IN RATS WITH INDUCED DIABETES MELLITUS

Roxana Folescu¹, Andrei Gheorghe Marius Motoc¹,
Mirela Loredana Grigoraş¹, Carmen-Camelia Haivas¹,
Carmen Lăcrămioara Zamfir²

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Morpho-Functional Sciences, "Grigore T. Popa" University of Medicine and Pharmacy, Iași, România,

KEYWORDS:

selenium, diabetes, female genital system, rats.

INTRODUCTION

Recent data suggest a particular role for selenium in deciphering insulin synthesis and control of its secretion. The two selenoproteins which are considered to be responsible for monitoring insulin dependent mechanisms are important triggers for insulin resistance; for this reason we consider important to evaluate a possible influence of selenium on female genital system, in conditions of an experimental diabetes mellitus. If the effects of another micronutrient, zinc, in the same area of interest, were better understood, selenium influence is still to be monitored in order to understand exactly the mechanisms involved in reducing diabetes effects on female genital system.

THE OBJECTIVES OF THE STUDY

Our study intends to reevaluate the role of selenium administration as micronutrient in improving diabetes effects on female genital system.

MATERIAL AND METHOD

Thirty Wistar female adult rats were used in the study, randomly grouped into 3 groups, each of 10 rats/group: control, diabetic group (each animal received a single intraperitoneally streptozotocin dose-60mg/kg), diabetic group + sodium selenite (same dose of streptozotocin, plus 0,4mg/kg/day sodium selenite, for a whole month). At the end of the experiment, the blood was collected and samples of tissues from ovary, uterus and vagina from all three groups of rats were prelevated, fixed in formalin and specifically treated for paraffin embedding, sectioning and H&E staining.

RESULTS

Compared to control group, diabetic group revealed ovarian follicular depletion, endometrial and vaginal atrophy; the administration of selenium induced a moderate degree of improvement diabetic alterations in female rats genital tract.

CONCLUSIONS

The administration of sodium selenite can facilitate a better recovery of main morphologic and functional characteristics of female genital tract which are associated with diabetes mellitus.

SELECTIVE REFERENCES

- [1] Duntas LH, Benavente S. Selenium: an element for life. *Endocrine*. 2015; 48(3):756-75.
- [2] Hosnedlova B, Kepinska M, Skalickova S, Fernandez C, Ruttikay-Nedecky B, Malevu TD, et al. A Summary of New Findings on the Biological Effects of Selenium in Selected Animal Species-A Critical Review. *Int J Mol Sci*. 2017; 18(10). pii: E2209.
- [3] Pavlovic Z, Miletic I, Zekovic M, Nikolic M, Glibetic M. Impact of Selenium Addition to Animal Feeds on Human Selenium Status in Serbia. *Nutrients*. 2018; 10(2). pii: E225.

Corresponding author

MD.PhD, Senior Lecturer Roxana Folescu
E-mail address: roxanafolescu08@gmail.com

A RARE CASE OF KIDNEY PATHOLOGY: WUNDERLICH SYNDROME

Adelina Gheju¹, Tăban Sorina^{1,2}, Ioana Mihai¹, Aura Jurescu¹,
Emilian Olteanu¹, Octavia Vița¹, Adrian Văduva¹, Marioara Cornianu^{1,2},
Denisa Anderco², Alis Dema^{1,2}

¹Department of Pathology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Pathology, "Pius Brînzeu" County Emergency Hospital Timișoara, Liviu Rebreanu Bd., No. 156, 300723, Timișoara, România.

KEYWORDS:

Wunderlich syndrome, angiomyolipoma, renal.

INTRODUCTION

Wunderlich syndrome is a rare disease characterized by acute spontaneous, nontraumatic renal hemorrhage into the subcapsular and perirenal spaces. Renal angiomyolipoma, a benign mesenchymal tumor, is the most frequent cause of Wunderlich syndrome. Angiomyolipoma associated with this condition tends to be larger, multiple and more likely to cause spontaneous hemorrhage than the sporadic type.

THE OBJECTIVE OF THE STUDY

Our study aims to present a rare case of Wunderlich syndrome, first described in 1856.

MATERIAL AND METHODS

We present the case of a 29 year old woman admitted in the Emergency department of "Pius Brînzeu" County Hospital Timisoara in hypovolemic shock. The preoperative CT revealed massive bleeding in the left perirenal area. During emergency surgery, the urologist found an enlarged kidney surrounded by massive retroperitoneal haemorrhage. The patient was also diagnosed in the Pathology department with angiomyolipoma in the other kidney, four years ago.

RESULTS

Microscopy revealed in the left kidney a mesenchymal renal tumor consisting of three well represented contingents: mature adipose tissue, vascular structures with modified, thickened walls, from which emerge variable bundles of predominantly fusiform cells, epithelioid area, with characteristic IHC phenotype: SMA and HMB45 intense and diffuse positive, without notable cyto-nuclear atypia; proliferation infiltrates

extensively, apparently under a multifocal pattern, renal parenchyma and pelvic and perirenal adipose tissue, focally reaching a distance of 0.2-0.3 mm from the Gerota fascia. A diagnosis of multifocal angiomyolipoma was made.

CONCLUSIONS

Despite the fact that angiomyolipoma is a benign tumor, long term follow-up should be considered and the patients should be warned of any complications that could endanger their lives. Further reports about this rare condition are needed, to improve the knowledge about the evolution of this disease.

SELECTIVE REFERENCES

- [1] Simkins A, Maiti A, Cherian SV. Wunderlich Syndrome. Am J Med. 2017;130(5):e217-8.
- [2] Katabathina VS, Katre R, Prasad SR, Surabhi VR, Shanbhogue AK, Sunnapwar A. Wunderlich syndrome: cross-sectional imaging review. J Comput Assist Tomogr. 2011; 35(4):425-33.
- [3] Chamarthi G, Koratala A. Wunderlich syndrome. Clin Case Rep. 2018; 6(9):1901-2.

Corresponding author:

MD. Assistant Professor Adelina Gheju
E-mail adress: ade.benescu@yahoo.com

ABSTRACT

CADAVERIC STUDY OF LUMBRICAL MUSCLES OF THE HAND

**Laura-Octavia Grigoriță¹, Monica-Adriana Vaida¹, Loredana-Gabriela Stana¹,
Adelina-Maria Jianu¹, Marius-Cornelui Niculescu¹, Corina-Georgina Matu¹,
Nawwaf Sebastian Damen²**

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Pediatric Surgery Clinic, "Louis Turcanu" Emergency Clinical Hospital for Children Timișoara,
Street Doctor Iosif Nemoianu 2, 300011, Timișoara, România

KEYWORDS:

anatomy, variation, lumbrical muscle, bifid insertion.

INTRODUCTION

The lumbrical muscles are one of the major constituents of intrinsic musculature in hand. They play significantly greater role in the precision movements of the fingers. These muscles are special because they have no bony attachments, they attach to the tendon sheaths, originating from the tendons of flexor digitorum profundus and inserting to the extensor expansions.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the anatomical variation of the lumbrical muscles in hands.

MATERIAL AND METHODS

The study was performed on 24 hands of formalin-fixed cadavers, in the Department of Anatomy and Embryology, „Victor Babeș” University of Medicine and Pharmacy, Timisoara. Each lumbrical was observed for origin, insertion and nerve supply. The results were compared which those reported in the literature.

RESULTS

In the present study the 4th lumbrical was anomalous in 2 out of 24 cases. In one case, the left 4th lumbrical had a bifid insertion, in which at the level of the metacarpophalangeal joint it divides in two bundles, one toward the common extensor digitorum tendon of the ring finger and the other toward the common extensor digitorum tendon of the little finger. In one case, the right 4th lumbrical muscle had an abnormal insertion on the ulnar surface of the common extensor digitorum tendon of the ring finger.

CONCLUSIONS

Knowledge of unusual variation of lumbrical muscles, is important to avoid complications during hand surgery procedures.

SELECTIVE REFERENCES

[1] Hur MS. Variations of lumbrical muscle innervation patterns in the hand, focusing on the dual innervation of the third lumbrical muscle. *Muscle Nerve*. 2017; 55(2):160-5.

[2] Chen CY, McGee CW, Rich TL, Prudente CN, Gillick BT. Reference values of intrinsic muscle strength of the hand of adolescents and young adults. *J Hand Ther*. 2018; 31(3):348-56.

[3] Wang K, McGlenn EP, Chung KC. A biomechanical and evolutionary perspective on the function of the lumbrical muscle. *J Hand Surg Am*. 2014; 39(1):149-55.

Corresponding author

MD.PhD, Senior Lecturer Laura-Octavia Grigorița
E-mail adress: grigorița.laura@umft.ro

ABSTRACT

MORPHOLOGIC EVALUATION OF THE MENTAL FORAMEN IN WESTERN ROMANIAN POPULATION

Laura-Octavia Grigoriță¹, Andreea Grigoriță², Adelina-Maria Jianu¹,
Anca Tudor³, Monica-Adriana Vaida¹, Alexandra-Corina Faur¹,
Adrian-Cosmin Ilie¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Student, Faculty of Medicine, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

³Department of Functional Sciences, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

anatomy, mandible, mental foramen.

INTRODUCTION

The mental foramen has a bilateral location, on the anterolateral aspect of the body of mandible. It gives passage to mental nerve and vessels. The mental foramen is an important anatomical landmark. The position as well as the shape and dimensions of the mental foramen are important for anesthetists and surgeons during different dental procedures.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the morphology of the mental foramen (MF), and to make a comparative statistical analysis with the data presents in the literature.

MATERIAL AND METHODS

Measurements were made on both sides, on 35 adult human dry mandibles in the Department of Anatomy and Embryology, „Victor Babeș” University of Medicine and Pharmacy, Timișoara, using a Vernier Caliper 150mm 0,02mm, to provide information about the shape, size, and location of the MF. The statistical analysis was made using SPSS v.17 software and included descriptive statistics results (mean±standard deviation, standard error, confidence intervals). The t-Student Test obtained the differences between independent groups. Any value of $p < 0.05$ was considered statistically significant.

RESULTS

The most frequent position of the MF was between the first and the second premolars, at the variable distance between the alveolar crest and the inferior border of the mandible. Significant differences

were observed between age and the type of MF, possibly due to bone resorption and dental degeneration, but no significant differences between the morphology of MF and the side.

CONCLUSIONS

Our study supplements the knowledge of MF variation and is of profound interest for the clinician because knowledge the morphology of the MF can minimize complications during the mandibular surgery.

SELECTIVE REFERENCES

[1] Alam MK, Alhabib S, Alzarea BK, Irshad M, Faruqi S, Sghaireen MG, et al. 3D CBCT morphometric assessment of mental foramen in Arabic population and global comparison: imperative for invasive and non-invasive procedures in mandible. *Acta Odontol Scand.* 2018; 76(2):98-104.

[2] Direk F, Uysal II, Kivrak AS, Fazliogullari Z, Unver Dogan N, Karabulut AK. Mental foramen and lingual vascular canals of mandible on MDCT images: anatomical study and review of the literature. *Anat Sci Int.* 2018; 93(2):244-53.

[3] Laher AE, Wells M, Motara F, Kramer E, Moolla M, Mahomed Z. Finding the mental foramen. *Surg Radiol Anat.* 2016; 38(4):469-76.

Corresponding author

MD.PhD, Senior Lecturer Laura-Octavia Grigorita
E-mail adress: grigorita.laura@umft.ro

ROUTINE PREOPERATIVE ULTRASOUND EXAMINATION OF THE FIRST EXTENSOR COMPARTMENT IN PATIENTS WITH DE QUERVAIN DISEASE. IS IT NECESSARY?

Vladislav Gyebnar¹, Amina Tina Shammat¹, Zorin Petrișor Crăiniceanu²

¹Clinic of Plastic and Reconstructive Surgery, „Pius Brânzeu” Emergency County Clinical Hospital Timișoara, Liviu Rebreanu Blv. No. 156, 300723, Timișoara, România.

² Department of Plastic Surgery, “Victor Babeș” University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

de Quervain, first extensor compartment, anatomical variations.

INTRODUCTION

De Quervain's disease (DQD) is tenosynovitis of the first extensor compartment tendons of abductor pollicis longus (APL) and extensor pollicis brevis (EPB) and it is named by Fritz De Quervain who first described it in 1895. It is well known that significant anatomic variations (AV) exist within the first extensor compartment. The diagnosis is usually clinical and is characterized by pain and tenderness to palpation over the Radial styloid process, a positive Finkelstein test, painful wrist and thumb movement and palpable thickening of the tendon sheaths. The treatment varies from conservative to surgical decompression of the first extensor compartment.

THE OBJECTIVE OF THE STUDY

To demonstrate the importance and usefulness of preoperative sonographic evaluation in the detection of AV in the first extensor compartment of the wrist in patients who will undergo surgical release, and to avoid failed surgical decompression due to inadequate and incomplete release caused by AV.

MATERIALS AND METHODS

A total of 28 patients with 32 symptomatic wrists were analyzed. The diagnosis was based on clinical symptoms and a positive Finkelstein test. Preoperative ultrasound examination was performed by the same radiologist in all patients, in both hands. Surgery was performed by the same surgeon.

RESULTS

Ultrasound examination (US) detected the subcompartmentalization of the first extensor

compartment in 14 of 32 wrists (43.75%), from which 5 had incomplete septation. US was also used to identify APL and EPB tendon slips. Out of 32 wrists APL had one slip in 20 cases (62.5%), two slips in 9 wrists (28.12%) and three slips in 3 patients (9.37%). EPB was represented by one slip in 30 cases and two slips in the remaining three wrists. The aspect of the compartments and the number of slips detected ultrasonographically were identical with the intraoperative findings.

CONCLUSION

US correctly identified the separate compartments in all cases and is a useful tool to evaluate AV of first extensor compartment in patients with DQD. Performing preoperative US of the first extensor compartment with the determination of the number of tendons and the presence or absence of subcompartmentalization in all patients can optimize the surgical results and prevent the complication of incomplete release of the compartment and the failure of the procedure.

SELECTIVE REFERENCES

- [1] Awan WA, Babur MN, Masood T. Effectiveness of therapeutic ultrasound with or without thumb spica splint in the management of De Quervain's disease. *J Back Musculoskelet Rehabil.* 2017; 30(4):691-7.
- [2] Goel R, Abzug JM. De Quervain's tenosynovitis: a review of the rehabilitative options. *Hand (N Y).* 2015; 10(1):1-5.
- [3] Szabo Z, Foucher G. The anatomy of de Quervain's disease: a study of operative findings. *Int Orthop.* 1995; 19 (4): 209-11.

Corresponding author

MD.PhD, Vladislav Gyebnar

E-mail address: gyebnar@gmail.com

VERTEBRAL LEVEL OF THE ORIGIN OF THE CELIAC TRUNK. MORPHOLOGICAL STUDY BY MDCT ANGIOGRAPHY

Nicoleta Iacob¹, Horia Pleş^{1,2}, Petru Matusz³

¹Department of Multidetector Computed Tomography and Magnetic Resonance Imaging, Neuromed Diagnostic Imaging Centre, Timișoara, 16 Decembrie 1989 Bulevard, No. 43, 300218, Timișoara, România.

²Department of Neurosurgery, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

³Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

celiac trunk, vertebral level of origin, variations, MDCT angiography.

INTRODUCTION

The celiac trunk (CT) represents the first median visceral branch of abdominal aorta, with origin immediately below the aortic hiatus of the diaphragm.

THE OBJECTIVES OF THE STUDY

The objectives of the study were to highlight: (i) the level of aortic origin of the CT according to the vertebral and disc elements and the level of upper and lower extension of the level of origin; (ii) if there are morphological differences of origin according to sex.

MATERIAL AND METHOD

300 patients with a medical history of peripheral vascular disease of the lower limbs, were examined at the infradiaphragmatic level at Neuromed Imaging Center Timișoara, using MDCT angiography (64-slice MDCT system; SOMATOM Sensation, Siemens Medical Solutions, Forchheim, Germany). In addition, the morphological parameters regarding the origin level of the CT were analyzed. In order to be able to make gender considerations, 150 male and 150 female cases were sectioned. Written informed consent was obtained from all the patients for the X-ray examination and the use of iodinated contrast agents and for using the obtained information in scientific research.

RESULTS

This study highlights that: (i) in males, 28.67% of cases is placed at the level of upper 1/3 level of the L1 vertebral body, with a range of origin between the upper 1/3 of the T12 vertebral body and the L1 / L2 intervertebral disc; (ii) in females, 29.33% of cases is placed at the level of the lower 1/3 of the T12 vertebral body, with a range of origin between the lower 1/3 of

the T11 vertebral body and the upper 1/3 of the L2 vertebral body; (iii) overall (300 cases) the maximum frequency of TC origin is placed at the upper 1/3 level of the L1 vertebral body (28% of cases). The total range of origin of the CT is placed between the lower 1/3 level of the T11 vertebral body and the upper 1/3 level of the L2 vertebral body. On the all cases, the interval between the lower 1/3 of the body of the T12 vertebra and the upper 1/3 of the body of the L1 vertebra represents 72.76% of the cases .

CONCLUSIONS

The most frequent the vertebral origin of CT is placed at the level the upper 1/3 level of the L1 vertebral body. There are no significant differences according to gender.

SELECTIVE REFERENCES

[1] Pinal-Garcia DF, Nuno-Guzman CM, Gonzalez-Gonzalez ME, Ibarra-Hurtado TR. The Celiac Trunk and Its Anatomical Variations: A Cadaveric Study. *J Clin Med Res.* 2018; 10(4):321-9.

[2] Iacob N, Sas I, Joseph SC, Pleş H, Miclăuş GD, Matusz P, et al. Anomalous pattern of origin of the left gastric, splenic, and common hepatic arteries arising independently from the abdominal aorta. *Rom J Morphol Embryol.* 2014; 55(4):1449-53.

[3] Matusz P, Iacob N, Miclaus GD, Pureca A, Ples H, Loukas M, et al. An unusual origin of the celiac trunk and the superior mesenteric artery in the thorax. *Clin Anat.* 2013; 26(8):975-9.

Corresponding author

MD.PhD, Nicoleta Iacob

E-mail adress: nicoiacob@gmail.com

ANATOMICAL VARIATIONS OF THE CELIAC TRUNK: MDCT ANGIOGRAPHIC STUDY

Nicoleta Iacob¹, Horia Pleş^{1,2}, Petru Matusz³

¹Department of Multidetector Computed Tomography and Magnetic Resonance Imaging, Neuromed Diagnostic Imaging Centre, Timișoara, 16 Decembrie 1989 Bulevard, No. 43, 300218, Timișoara, România.

²Department of Neurosurgery, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

³Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

celiac trunk, vertebral level of origin, variations, MDCT angiography.

INTRODUCTION

After the classical description of the celiac trunk (CT) by the Haller, numerous anatomical variations of origin of the three components have been described.

THE OBJECTIVE OF THE STUDY

The objective of this study is to highlight the presence of the morphological variations in formation of the CT, on a significant number of cases.

MATERIAL AND METHOD

5,442 patients with a medical history of peripheral vascular disease of the lower limbs, were examined at the infradiaphragmatic level at Neuromed Imaging Center Timișoara, using MDCT angiography (64-slice MDCT system; SOMATOM Sensation, Siemens Medical Solutions, Forchheim, Germany). In addition, the variability of CT morphology was analyzed. A written informed consent was obtained from all the patients for the X-ray examination, the use of iodinated contrast agents and for using the obtained information in scientific research.

RESULTS

A percentage of 90.812% of cases (4,942/5,442 cases) presented the modal morphological type (hepato-gastro-splenic trunk). A percentage of 9.187% of cases (500 / 5,442 cases) showed morphological variations of CT formation, which were classified into 14 types: (i) hepato-splenic trunk (4,208%); (ii) gastro-splenic trunk associated with

hepato-mesenteric trunk (2,021%); (iii) gastro-splenic trunk (1,433%); (iv) celiacomenenteric trunk (0,423%); (v) CT absent as a morphological entity (0,330%); (vi) tetrafurcated CT [right hepato-gastro-splenic-hepatic] (0,312%); (vii) hepato-gastric trunk associated with splenic-mesenteric trunk (0,147%); (viii) hepato-spleno-mesenteric trunk (0,129%); (ix) hepato-mesenteric trunk (0,073%); (x) bi-splenic CT (0,037%); (xi) hepato-gastric trunk (0,018%); (xii) gastro-spleno-mesenteric trunk (0,018%); (xiii) spleno-gastroduodenal trunk (0,018%); (xiv) CT absent as a morphological entity [with gastroduodenal artery – left gastric artery – splenic artery, with separate origin from abdominal aorta] associated with the presence of the right hepatic artery of the superior mesenteric artery and the left hepatic artery from the left gastric artery (0,018%).

CONCLUSIONS

The increase in the number of cases examined leads to an increase in the number of morphological types of CT.

SELECTIVE REFERENCES

- [1] Iacob N, Sas I, Joseph SC, Pleş H, Miclăuş GD, Matusz P, et al. Anomalous pattern of origin of the left gastric, splenic, and common hepatic arteries arising independently from the abdominal aorta. *Rom J Morphol Embryol.* 2014; 55(4):1449-53.
- [2] Matusz P, Miclăuş GD, Pleş H, Tubbs RS, Loukas M. Absence of the celiac trunk: case report using MDCT angiography. *Surg Radiol Anat.* 2012; 34(10):959-63.
- [3] Song SY, Chung JW, Yin YH, Jae HJ, Kim HC, Jeon UB, et al. Celiac axis and common hepatic artery variations in 5002 patients: systematic analysis with spiral CT and DSA. *Radiology.* 2010; 255(1):278-88.

Corresponding author

MD.PhD, Nicoleta Iacob

E-mail address: nicoiacob@gmail.com

ERYTHROCYTES: WHAT'S NEW IN BIOMEDICINE?

Adriana-Andreea Jitariu¹

¹Department of Microscopic Morphology/ Histology, Angiogenesis Research Center,
"Victor Babeş" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

erythrocytes, erythrocyte disorders, biomedicine.

INTRODUCTION

Commonly known as red blood cells, erythrocytes transport oxygen and carbon dioxide waste between the lungs and the body tissues. They lack most cellular organelles thus providing the appropriate interior space for hemoglobin molecules. Erythrocytes contain specific structural proteins that ensure their plasticity thus enabling them to squeeze through vessels of small diameter. Senescent erythrocytes are removed through phagocytosis and hemoglobin is further processed. The fabrication of hemocompatible materials that prevent the formation of blood clots is a major challenge for the biomedical industry. Modern foreign materials are specifically designed to suppress fibrin and thrombin formation and are mostly represented by polyurethane (PU) scaffolds. Erythrocyte disorders consisting in different changes of erythrocyte characteristics have a major impact on human health worldwide.

THE OBJECTIVE OF THE STUDY

The present review aims to discuss the morphological and functional characteristics of erythrocytes and their implications in human pathology and biomedicine.

MATERIAL AND METHODS

We reviewed a number of 11 articles concerning erythrocyte structure, functions, differentiation and implications in human pathology and biomedicine. The reference articles are all recent publications from 2013, 2017, 2018 and 2019 respectively. Most of them are published in scientific journals with > 1,5 impact factor (IF), the highest IF being 17,161 (Science Translational Medicine) and the lowest 0,28 (Journal of Medical Signals and Sensors).

RESULTS

Decrease in the level of specific biological substances lead to the occurrence of abnormal cells. The

most frequent erythrocyte disorders found in clinical practice include variations in the shape, size and number of erythrocytes. In the last decades, the biomedical field has been focused on fabricating hemocompatible materials that prevent blood clot formation. Biocompatible materials such as polyurethane (PU) based scaffolds, electrospun composites or nanoparticles based on gold (Au) and platinum (Pt) are investigated as they ensure an increased hemocompatibility degree. Changes in the physical surface results in improvement of hemocompatibility and are obtained by ensuring a structured surface either through platelet adhesion or protein adsorption. Biomedical scaffolds that mimic natural tissues represent promising tools in the field of tissue engineering as they improve blood clotting time and show low toxicity levels. Erythrocyte characteristics and changes in the surface of the foreign material are currently studied in the biomedical industry.

CONCLUSIONS

We believe that our review is a „take home message” concerning the important roles played by erythrocytes in normal conditions, their implications in pathology and their major impact in biomedicine.

SELECTIVE REFERENCES

- [1] Rossi L, Fraternali A, Bianchi M, Magnani M. Red Blood Cell Membrane Processing for Biomedical Applications. *Front Physiol.* 2019; 10:1070.
- [2] Zargar SM, Hafshejani DK, Eskandarinia A, Rafienia M, Kharazi AZ. A Review of Controlled Drug Delivery Systems Based on Cells and Cell Membranes. *J Med Signals Sens.* 2019; 9(3):181-189.
- [3] Lippi G, Mattiuzzi C. Updated Worldwide Epidemiology of Inherited Erythrocyte Disorders. *Acta Haematol.* 2019; 24:1-7.

Corresponding author

MD. Assistant Professor Adriana-Andreea Jitariu
E-mail address: jitariu.andreea@umft.ro

CLINICOPATHOLOGICAL CORELLATIONS IN UTERINE CANCER

**Aura Jurescu¹, Anca Mureșan^{1,2}, Octavia Vița¹, Adrian Văduva¹, Adelina Gheju¹,
Ioana Mihai¹, Emilian Gh. Olteanu¹, Remus Cornea^{1,2}, Vlad Lupu¹,
Codruța Lăzureanu^{1,2}, Marioara Cornianu^{1,2}, Sorina Tăban^{1,2}, Alis Dema^{1,2}**

¹Department of Pathology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Pathology, "Pius Brînzeu" County Emergency Hospital Timișoara,
Liviu Rebreanu Bd., No. 156, 300723, Timișoara, România.

KEYWORDS:

endometrial cancer, cervical cancer, lymphovascular invasion.

INTRODUCTION

Endometrial and cervical cancers persist as global problems. Endometrial cancer (EC) is the most common malignancy of the female genital tract in developed countries, while cervical cancer (CC) ranks second as incidence and as the third cause of death among these women in developing countries.

THE OBJECTIVE OF THE STUDY

The aim of this study was to identify the risk categories based on clinicopathological features, such as histological type, tumor grade and tumor stage and to establish correlations with lymphovascular invasion with further prognostic implications.

MATERIAL AND METHODS

A retrospective study was performed on a group of 130 patients diagnosed with CC (63 cases) or EC (67 cases) in 2013 – 2014, at the Timisoara Pius Branzeu Emergency County Hospital. We looked for correlations between the clinico-pathological factors: age, histological type, degree of tumor differentiation (G), TNM stage, metastases in lymph nodes (LNM) and lymphovascular invasion (LVI). Results: In our study, CC was identified with a maximum incidence in the 6th decade of life. The majority 56 (89%) of CC cases were squamous cell carcinomas predominantly of noncheratinized type, followed by adenocarcinomas 3 cases (6%) and adenosquamous carcinomas 5 cases (5%). Regarding the CC cases 53 (84%) cases were moderately-G2 and 10 (16%) cases poorly-G3 differentiated. For the tumors diagnosed on resection specimens, in 73% of cases the lesion is confined to the uterus (pT1). For 19% of cases, the metastases in regional lymph nodes were identified and about a quarter of the patients with CC had LVI. In contrast, the EC was most prevalent in 7th decade. 84% from all EC were endometrioid adenocarcinomas.

The majority 27 (40%) of this cases were well-G1 and 26 (39%) moderately-G2, followed by 14 (21%) poorly-G3 differentiated. Regarding the T parameters (pTNM) we noticed that 63% of staged cases were pT1. In addition 50% of the pT1 EC cases presented LVI.

CONCLUSIONS

The EC and CC were diagnosed predominantly in 6th-7th decade of life. For both types of cancers, the stage of the disease is one of the most important prognostic factors and the involvement of the lymphovascular space predicts the extended disease and an unfavorable prognosis.

SELECTIVE REFERENCES

- [1] Colombo N, Preti E, Landoni F, Carinelli S, Colombo A, Marini C, et al. Guidelines Working Group, Endometrial cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology*. 2013; 24(suppl_6):vi33–8.
- [2] Nougaret S, Horta M, Sala E, Lakhman Y, Thomassin-Naggara I, et al. Endometrial Cancer MRI staging: Updated Guidelines of the European Society of Urogenital Radiology. *Euradiol*. 2019; (2):792-805.
- [3] Marth C, Landoni F, Mahner S, McCormack M, Gonzalez-Martin A, Colombo N, et al. Cervical cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol*. 2017; 28(suppl_4):iv72-iv83.

Corresponding author

MD. Assistant Professor Aura Jurescu
E-mail address: jurescu.aura@umft.ro

ECTOPIC TISSUE AND ITS CLINICAL AND PATHOLOGICAL SIGNIFICANCE

Aura Jurescu¹, Marioara Cornianu^{1,2}, Adrian Văduva¹, Adelina Gheju¹,
Ioana Mihai¹, Emilian Gh. Olteanu¹, Octavia Vița¹, Remus Cornea^{1,2},
Codruța Lăzureanu^{1,2}, Sorina Tăban^{1,2}, Alis Dema^{1,2}

¹Department of Pathology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Pathology, "Pius Brînzeu" County Emergency Hospital Timișoara,
Liviu Rebreanu Bd., No. 156, 300723, Timișoara, România.

KEYWORDS:

ectopic tissue, pancreas, parathyroid, testis.

INTRODUCTION

The site of organ/tissue formation is normally determined by rigorously coordinated developmental programs. Sometimes, this precise mechanism does not operate properly; as a consequence the tissues are formed in ectopic locations. Ectopia is an error of embryogenesis with the presence of normal/pathological tissue in the incorrect anatomic site.

THE OBJECTIVE OF THE STUDY

The aim of this study was to identify the clinical and pathological implications for the ectopic tissues.

MATERIAL AND METHODS

We perform a retrospective study on a group of 68 patients diagnosed with ectopic tissue along a decade, at the Timisoara Pius Branzeu Emergency County Hospital. The slides were stained haematoxylin-eosin (H&E) and some of them immunohistochemically (IHC). We looked for correlations between the clinico-pathological parameters: age, gender, ectopic sites as well as the possible complications of these conditions.

RESULTS

We found 68 cases of ectopic tissue: - 1 case of appendix (left inguinal area) with gangrenous appendicitis; - 8 cases of ectopic pancreas (stomach, small intestine or perigastric adipose tissue), 3 of them with pancreatic intraepithelial neoplasia-PanIN-2 lesion, pancreatic endocrine microadenoma and acute necrotic pancreatitis; - 10 cases of ectopic parathyroid (intrathoracic or thymus), 2 of them with parathyroid adenoma; one case also presenting ectopic thymus; - 4 cases of ectopic (laterocervical) thyroid, one of them with thyroid papillary carcinoma and another with nodular goiter lesions; - 8 cases of ectopic thymus (in parathyroid or thyroid); - 9 cases of ectopic breast tissue in the axilla, 2 of them with fibrocystic change, 2 with

inflammation and one with adipose necrosis; - 2 cases of prostate tissue in the bladder; - 18 cases of ectopic / cryptorchid testis, 4 of them with chronic focal orchitis, one with seminoma, one with in situ germ cell neoplasia, one with adenomatous tumor, one with nodular Leydig cell hyperplasia, one with adenomatous hyperplasia of the rete testis, 2 with mesothelial cyst, 2 with interstitial hemorrhage, one with microlithiasis; - 8 cases of adrenal tissue (paraovarian, paratubar, pelvic fat tissue, tubo-ovarian ligament).

CONCLUSIONS

Ectopic tissue is not a rare pathological finding and should be considered in the positive and differential diagnosis of different lesions.

SELECTIVE REFERENCES

- [1] Stevenson RE, Hall JG, editors. Human malformations and related anomalies. Oxford: University Press. 2005
- [2] Kawaguchi Y, Cooper B, Gannon M, Ray M, MacDonald RJ, Wright CVE. The role of the transcriptional regulator Ptf1a in converting intestinal to pancreatic progenitors. Nat. Genet. 2002; 32:128–13
- [3] Rosai, J, Ackerman LV. Rosai and Ackerman's surgical pathology. 9th edition. Edinburgh, New York, 2004. 3080 pp.

Corresponding author

MD. Assistant Professor Aura Jurescu
E-mail address: jurescu.aura@umft.ro

OVARIAN CHARACTERISTICS IN THE FETAL PERIOD

Inna Kashperuk-Karpiuk¹, Dmytro Proniaiev¹, Natalia Shvets¹,
Timotey Penteleichuk¹, Oleksandr Ursuliak¹

¹Department of Anatomy, Clinical Anatomy and Operative Surgery,
Higher State Educational Establishment of Ukraine „Bukovinian State Medical University” Chernivtsi,
Teatralna sq. 2, Chernivtsi, Ukraine

KEYWORDS:

ovaries, fetus, anatomy, human.

INTRODUCTION

Defects of the urinary system take the 3rd place by their occurrence including 6% of developmental defects of the female reproductive organs. Therefore modern studies in the field of perinatal anatomy are of a special importance.

THE OBJECTIVE OF THE STUDY

To determine age peculiarities in the structure and topography of the fetal ovaries as well as similar and different tendencies in changes of the ovarian morphological parameters of the two groups of fetuses, remote in time.

MATERIAL AND METHODS

The study was conducted in the two groups of human fetuses, 4-10 months of development, 161.0-500.0 mm of the parietal-calcaneal length. The first group consisting of 35 specimens divided into 7 subgroups according to the month of development (4-10), collected with fetuses died during 2017-2019. The second group included specimens of fetuses collected during 1970-1990.

RESULTS

The length of the ovary in both groups increases gradually from the 4th to the 10th month with a certain delay during the 6th month. The majority of the ovarian parameters of 9-10 month fetuses do not differ reliably, which is indicative of a complete development of the ovarian definite structure at the 9th month of the intrauterine development. Comparison of the parameters of the two groups of fetal specimens, remote in time, is indicative of the fact that in the majority of the parameters they do not differ. Although in modern studies the length of the right ovary in 8-month fetuses, and the length of the left ovary in 7-month fetuses is shorter than that of the archival specimens. Similarly the

width of the left ovary in 4-month fetuses appears to be reliably shorter than that of the archival specimens. The thickness of the right ovary of 7 and 10-month modern fetuses is reliably less than that of the appropriate groups of the archival specimens. The thickness of the left ovary of modern fetuses is reliably less than that of the archival specimens during the 10th month.

CONCLUSIONS

Reliable difference was found only in 2 pairs of the parameters included in 42 pairs of the examined morphometric parameters of both groups. It is indicative of inconsiderable changes of these parameters during the period of 27-49 years.

SELECTIVE REFERENCES

- [1] Marchuk VF. Ontogenetic transformations of ovaries in the prenatal period of human development. *Morphology*. 2007; 1(7):62-9.
- [2] Outwater EK, Mitchell DG. Normal ovaries and functional cysts: MR appearance. *Radiology*, 1996; 198(2):397-402.
- [3] George C, Berge LR. Hypothesis Testing. *Statistical Inference*. Second Edition. Duxbury California; Pacific Grove, 2002.

Corresponding author

PhD. Associate Professor I.S. Kashperuk-Karpiuk
E-mail address: kashperuk.inna@gmail.com

OMBREDANNE'S DISEASE. A CASE REPORT OF MULTIPLE JOINT DIFORMITIES IN AN ADULT PACIENT

Adrian Lăzărescu¹, Paul Bîănă¹, Roxana Țaga¹, Alina-Maria Șișu¹, Sorin-Lucian Bolintineanu¹, Laura Bolintineanu^{1,2}

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Clinic of Oftalmology, City Hospital Timișoara, Scuar Martir Radian Belici, No.4, 300011, Timișoara, România

KEYWORDS:

Ombredanne's disease , deformity , joint degeneration.

INTRODUCTION

Multiple hereditary osteochondroma (HMO) or Ombredanne's disease is a rare disorder in which multiple exostosis develop usually near the metaphysis of long bones such as femur or humerus , in the vicinity of major joints. Surgical indication is established in cases in which the masses cause compression syndromes or biomechanically affect function or limit movement.

THE OBJECTIVE OF THE STUDY

To present a rare case of multiple joint deformities in the context of Ombredanne's Disease in a 32 years old patient that did not accept correction surgeries, leading to degenerative joint pathology at this young age.

MATERIALS AND METHODS

An 32 years old patient presented to the emergency room of the emergency county hospital seeking orthopaedic consult for a sprained ankle. Radiological images showed bony deformities of the ankle and the patient was advised to return for further investigations. Ulterior exhaustive clinical exam and imagistic examination using radiology and CT scans revealed multiple bony anomalies around major joints : knees, shoulders and ankles, with axial varus/valgus secondary deformities with clear surgical indication to preserve joint function and prevent premature joint replacement surgery.

RESULTS

CT scans revealed complex bony anomalies around major joints with distal tibio-fibular synostosis , proximal tibia and distal femur anomalies with secondary axial deformity in genu valgum, and proximal humerus anomalies. While some deformities are well tolerated , in this particular case knee function is impaired and the ankle

joint presents symptoms characteristic of osteoarthritis , secondary to distal tibio peroneal synostosis and altered ankle biomechanics.

CONCLUSION

We report a rare case of Ombredanne's Disease with multiple secondary joint deformities that could have been corrected surgically at a much younger age to prevent joint degeneration, but due to patient refusal, correction osteotomies were not performed until the present. The complex imaging study represents the beginning of this case's pre-operative planning.

SELECTIVE REFERENCES

- [1] Wells M, Birchard Z. A 40-Year-Old Male Presenting with Hereditary Multiple Exostosis: Management and Considerations. Case Rep Orthop. 2019; 10.1155/2019/ 4793043. eCollection 2019.
- [2] Andrews K, Rowland A, Tank J. Knee locked in flexion: incarcerated semitendinosus tendon around a proximal tibial osteochondroma, J Surg Case Rep., 2019; 10.1093 /jscr/rjy346. eCollection 2019.
- [3] Alabdullrahman LW, Byerly DW. Osteochondroma, StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2019. 2019 Jul 9.

Corresponding author

PhD, Assistant Professor Adrian Lăzărescu
E-mail adress: lazarescu.adrian@umft.ro

INCIDENTAL FINDING OF THYROID CARCINOMA DEVELOPED IN RELATIONSHIP WITH THYROGLOSSAL DUCT CYST

**Dorela-Codruța Lăzureanu^{1,2}, Anca Mureșan^{1,2}, Aura Jurescu¹,
Octavia Cornelia Vița¹, Mihaela Iacob², Diana Szilagyi², Ion Icma³,
Fulger Lazăr⁴, Marioara Cornianu^{1,2}**

¹Department of Pathology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Pathology, "Pius Brînzeu" County Emergency Hospital Timișoara, Liviu Rebreanu Bd., No. 156, 300723, Timișoara, România.

³Ist Surgery Clinic,

⁴IInd Surgery Clinic,

"Pius Brînzeu" County Hospital Timișoara, 156 Liviu Rebreanu Boulevard, 300723, Timișoara, România.

KEYWORDS:

anterior neck, thyroglossal duct, thyroid carcinoma.

INTRODUCTION

Most of the time, the embryonal connection between foramen cecum of the tongue base and the suprasternal region, use as a path for the thyroid descent, known as thyroglossal duct (TGD), gradually disappears by 10th week of in utero life. When the TGD involution fails, could result cystic dilatation with the onset of symptoms.

THE OBJECTIVE OF THE STUDY

To investigate the incidence and the anatomical approach of the thyroid carcinoma cases emerged from the TGD remnants in conjunction with similar cases described in the literature.

MATERIAL AND METHODS

The resection material from patients hospitalized in County Hospital Timisoara, presenting an anterior neck tumor mass was fixed in 10% buffered formalin solution, routinely processed and stained with hematoxylin – eosin; the immune profile was needed in challenging diagnosis. The patients were selected from the data-based program over a decade (2010 – 2019) with the reviewing of the corresponding histopathological slides from the Pathology Department archiv.

RESULTS

Within this decade, 16 patients underwent surgery for a tumor mass developed on the anterior neck (thyrohyoid region). The mean age was 46 years old, more than 2/3 being women (69%). Grossly, the resected specimens were irregular, but with smooth surface, measuring 1 cm to 7.5 cm in the largest diameter, cystic on cross section, containing a tan-brown or yellow-whitish material. On light microscopy, the inner surface commonly was lined by columnar, (pseudo)stratified respiratory type epithelium, w/o

foci of squamous metaplasia, singly or alternating with squamous stratified epithelium. The content was represented by proteinaceous material admixed with keratin debris. ¾ of cases (12 – 75%) presented thyroid follicles within the cyst wall. Emerging from the adjacent thyroid parenchyma, 3 cases presented papillary thyroid carcinoma, but only one (6.25%) was developed within the thyroglossal cyst wall. After surgery, there wasn't any recurrence for the studied cases.

CONCLUSIONS

When the (normal) involution of TGD fails to happen and becomes symptomatic, the surgical procedure is required. On rare occasion this could turn to the diagnosis of a cystic papillary thyroid carcinoma, but as long as the neoplasia is limited to the cyst wall, with no vascular involvement, is no need to stage it or to change the therapy approach.

SELECTIVE REFERENCES

[1] Huang LD, Gao SQ, Dai RJ, Chen DD, He B, Shi HQ, et al. Intra-thyroid thyroglossal duct cyst: a case report and review of literature. *Int J Clin Exp Pathol.* 2015; 8(6):7229–33.

[2] Shin AY, Lee SH, Jung WS, Ko SH, Ahn YB. Ectopic thyroid nodule in thyroglossal duct. *Korean J Intern Med.* 2011; 26(2):218–9.

[3] Alatsakis M, Drogouti M, Tsompanidou C, Katsourakis A, Chatzis I. Invasive Thyroglossal Duct Cyst Papillary Carcinoma: A Case Report and Review of the Literature. *Am J Case Rep.* 2018; 19:757–62.

Corresponding author:

MD. Assistant professor Aura Jurescu

E-mail address: jurescu.aura@umft.ro

ABSTRACT

A COMPARATIVE ANALYSIS OF THE NECK CONGENITAL CYSTIC LESIONS WITH ANATOMO-CLINICAL EVALUATION

Dorela-Codruța Lăzureanu^{1,2}, Aura Jurescu¹, Adrian Văduva¹, Adelina Gheju¹,
Ioana Mihai¹, Alis Dema^{1,2}

¹Department of Microscopic Morphology/ Morphopathology Discipline,
"Victor Babeș" University of Medicine and Pharmacy Timișoara, 2 Eftimie Murgu Square, 300041, Timișoara, România.

²Pathology Department,
"Pius Brînzeu" County Hospital Timișoara, 156 Liviu Rebreanu Boulevard, 300723, Timișoara, România.

KEYWORDS:

neck, congenital lesions, cysts.

INTRODUCTION

The cystic lesions of the neck include a wide range of congenital and acquired possibilities. Of these, we evaluate the cysts related with the failure of obliteration of some embryonal paths: the branchial clefts, respectively, the thyroglossal duct.

THE OBJECTIVE OF THE STUDY

To analyze and to compare the incidence and the anatomico-clinical data, regarding the congenital cystic lesions of the neck, caused by the failure of the branchial apparatus to obliterate, respectively by the persistence of the thyroglossal duct.

MATERIAL AND METHODS

The resection material from patients hospitalized in County Hospital Timișoara, because of a symptomatic tumor mass of the neck was fixed in 10% buffered formalin solution, routinely processed and stained with hematoxylin – eosin. For selected cases, the immunohistochemical profile was needed. The information was selected from the hospital data-based program over a 10 years period and the histopathological slides were reviewed from the Pathology Department archive.

RESULTS

25 patients underwent surgery for a symptomatic neck tumor mass, involving the latero-cervical (9 cases – 36%), respectively, thyrohyoid (16 cases – 64%) regions. The patients were mostly females (18 cases – 72%) with a mean age of 42 years (the peak being in the 3rd decade – 10 cases: 40%). Grossly, the resected specimens were relatively well delineated masses, measuring up to 7 cm in diameter, solid or cystic on cross section. On light microscopy, in all cases a cyst more or less collapsed was identified, lined (except 2 cases) by keratinized squamous

or respiratory epithelium, the latter w/o squamous metaplasia foci. Within the cyst wall lymphoid tissue, even with active germinal centers, respectively thyroid follicles (a single case with neoplastic characteristics) were described, admixed with inflammatory cells, granulation tissue and sometimes, foreign-body reaction. None of the cases recurred locally.

CONCLUSIONS

The congenital cystic lesions of the neck when symptomatic (and/or aesthetic challenging) must be surgically removed and characterized histopathologically afterwards. In our experience the prognosis is excellent, even when an incidental neoplastic change was identified.

SELECTIVE REFERENCES:

- [1] Hunt J. Non-neoplastic lesions of the neck (soft tissue, bone and lymph node) in Head and Neck Pathology, Second Edition, Elsevier Saunders, 2013, p. 451 – 468.
- [2] Bychkov A. Branchial pouch/cleft anomalies. PathologyOutlines.com.
<http://www.pathologyoutlines.com>
- [3] Bychkov A. Thyroglossal duct cyst. Pathology Outlines. com website. <http://www.pathologyoutlines.com>

Corresponding author:

MD.PhD, Assistant professor Adrian Vaduva
E-mail address: vaduva.adrian@umft.ro

A RETROSPECTIVE STUDY OF THE BRANCHIAL APPARATUS ANOMALIES WITH CLINICAL AND MORPHOLOGICAL CONSIDERATIONS

Dorela-Codruța Lăzureanu^{1,2}, Sorina Tăban^{1,2}, Aura Jurescu¹, Remus Cornea^{1,2}, Mihaela Iacob², Diana Szilagyi², Horațiu Petrescu³, Gheorghe Iovănescu⁴, Gheorghe Nodiți⁵, Alis Dema^{1,2}

¹Department of Microscopic Morphology/ Morphopathology,

"Victor Babeș" University of Medicine and Pharmacy Timișoara, 2 Eftimie Murgu Square, 300041, Timișoara, România.

²Pathology Department, 31st Orthopedic Clinic, 4Bega adult ENT Clinic, 5Plastic Surgery Clinic,

"Pius Brînzeu" County Hospital Timișoara, 156 Liviu Rebreanu Boulevard, 300723, Timișoara, România.

KEYWORDS:

neck region, congenital lesions, branchial cysts.

INTRODUCTION

The branchial apparatus anomalies result from the failure of its clefts to close during the head and neck embryogenesis.

THE OBJECTIVE OF THE STUDY

To characterize, as statistical data (incidence, demography) and as clinical and morphological features, the congenital lesions related to the incomplete obliteration of the branchial apparatus.

MATERIAL AND METHODS

The resection material from patients hospitalized in County Hospital Timisoara, presenting a tumor mass at the lateral aspect of the neck was fixed in 10% buffered formalin solution, routinely processed and stained with hematoxylin – eosin.

RESULTS

Over a period of 12 years (2008 – 2019), 10 patients underwent surgery for a tumor mass w/o cystic appearance, localized on the lateral aspect of the neck, 40% involving the left side, 60% the right side. The vast majority were women (80%) with a mean age of 34 years (the 3rd decade being with the peak in the number of cases: 5 – 50%). Most of the latero-cervical masses were localized in the midneck, anterior to sternocleidomastoid muscle (80%), the rest being below the angle of mandible (submandibular gland region). Grossly, the resected specimens were round to ovoid encapsulated masses, from 0.7 cm to 7.6 cm in diameter, solid or cystic on cross section, the latter with thin (0.1 – 0.2 cm thick), smooth wall, containing a yellow-whitish, friable material. On light microscopy, the lining epithelium was keratinized squamous (of variable thickness) – 80%, only 2 cases presenting a respiratory type; the content was represented by keratin

debris, seldom with dystrophic calcifications (1 case) or with suppuration over a xanthogranulomatous chronic inflammation against cholesterol depositions (1 case). The cyst wall presented lymphoid tissue, most of the time with follicular architecture and active germinal centers. There wasn't further recurrence for any of the studied cases.

CONCLUSIONS

Even there are not many cases, we can be aware about the predominant women involvement, around 34 years old, by a mid latero-cervical, mostly cystic mass, that microscopically proven to be a branchial cyst (lymphoepithelial cyst), originated in the second branchial cleft. The complete excision provide an uneventful healing with excellent aesthetic results.

SELECTIVE REFERENCES

[1] Regauer S, Gogg-Kamerer M, Braun H, Beham A Lateral neck cysts--the branchial theory revisited. A critical review and clinicopathological study of 97 cases with special emphasis on cytokeratin expression. *APMIS*. 1997; 105(8):623-30.

[2] Branchial pouch / cleft anomalies. PathologyOutlines.com website <http://www.pathologyoutlines.com>

[3] Hunt J. Non-neoplastic lesions of the neck (soft tissue, bone and lymph node) in *Head and Neck Pathology*, Second Edition, Elsevier Saunders, 2013, p. 451-68.

Corresponding author:

MD.PhD, Lecturer Remus Cornea

E-mail address: cornea.remus@umft.ro

MORPHOLOGICAL VARIABILITY OF THE FEMORAL NECK-SHAFT ANGLES

Corina-Georgina Matu¹, Monica-Adriana Vaida¹, Laura-Octavia Grigoriță¹,
Adrian Cosmin Ilie¹, Adelina-Maria Jianu¹, Loredana Stana¹,
Roxana-Aurora Matu

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

² Clinic of Child and Adolescent Neurology and Psychiatry, Louis Țurcanu" Emergency Clinical Hospital for Children Timișoara, Street Doctor Iosif Nemoianu 2, 300011, Timișoara, România

KEYWORDS:

anatomical variability, femur, neck-shaft angle.

INTRODUCTION

The variability of the femoral neck-shaft angles has been reported in numerous specialized studies. There is indeed a great difference in age and sex in terms of the value of the femoral neck-shaft angles.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the anatomical variability of the femoral neck-shaft angles.

MATERIAL AND METHODS

The study was conducted in the Anatomy Laboratory of the Department of Anatomy and Embryology of the "Victor Babeș" University of Medicine and Pharmacy Timișoara on a number of 18 femurs from adult bodies of women and men. The angles of the femur were measured with the help of the goniometer and the graduated ruler.

RESULTS

The angle of inclination, the angle of declination, the angle of Alsberg and the angle between the anatomical axis and the mechanical axis of the femur were measured. By the present study we found that the value of the angle of inclination varies between 115-147° with an average of $131.8 \pm 6.8^\circ$. The declination angle was between 12.8-17.3 ° with an average of $15.7^\circ \pm 1.2^\circ$. We found a value of the Alsberg angle between 39.7 ° and 41.5° with an average of $39.1^\circ \pm 1^\circ$. The angle between the anatomical axis and the mechanical axis of the femur had, in our studies, a value between 5.5-6.2° with an average of $5.8^\circ \pm 0.7^\circ$.

CONCLUSIONS

There was no significant gender difference in neck shaft angle. The importance of a proper understanding of the neck shaft angle helps us to learn more about the biomechanics of the hip joint and also for an

adequate treatment of pathological condition of the hip.

SELECTIVE REFERENCES

- [1] Child SL, Cowgill LW. Femoral neck-shaft angle and climate-induced body proportions. *Am J Phys Anthropol.* 2017; 164(4):720-35.
- [2] Adekoya-Cole TO, Akinmokun OI, Soyebi KO, Oguche OE. Femoral neck shaft angles: A radiological anthropometry study. *Niger Postgrad Med J.* 2016; 23(1):17-20.
- [3] Sangeux M, Pascoe J, Graham HK, Ramanauskas F, Cain T. Three-dimensional measurement of femoral neck anteversion and neck shaft angle. *J Comput Assist Tomogr.* 2015; 39(1):83-5.

Corresponding author

MD.PhD, Assistant Professor Corina-Georgina Matu

UNUSUAL FORMATION OF THE MEDIAN NERVE

**Corina-Georgina Matu¹, Monica-Adriana Vaida¹, Laura-Octavia Grigoriță¹,
Adrian Cosmin Ilie¹, Adelina-Maria Jianu¹, Loredana Stana¹,
Roxana-Aurora Matu²**

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Clinic of Child and Adolescent Neurology and Psychiatry, Louis Turcanu" Emergency Clinical Hospital for Children Timișoara,
Street Doctor Iosif Nemoianu 2, 300011, Timișoara, România.

KEYWORDS:

anatomical variability, brachial plexus, upper limb.

INTRODUCTION

The upper extremities are innervated by the brachial plexus. It is quite common to find variations of the plexus brachial. The formation of the terminal branches of the brachial plexus can be confusing because of frequent variations that may occur.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the variability of the formation of the brachial plexus. More precisely we studied the formation variants of the terminal branches of the brachial plexus.

MATERIAL AND METHODS

The study was conducted in the Anatomy Laboratory of the 1st Department of Anatomy-Embryology of the "Victor Babeș" University of Medicine and Pharmacy Timișoara by dissecting a male corpse that was around 60 years old.

RESULTS

During the dissections we found an unusual variant of the formation of the median nerve. The observed variant was present in the right upper limb. The median nerve had three roots, one lateral with the origin in the lateral cord of the brachial plexus and one medial that was double. The medial root of the median nerve presented two limb branches of origin, one originating in the medial cord of the brachial plexus and the other originating in the anterior branch of the middle trunk of the brachial plexus. At the level of the upper left limb, the median nerve was formed according to the classical model through two roots that originated in the medial and lateral cord of the brachial plexus.

CONCLUSIONS

Knowing the anatomical variants of the formation of the branches of formation of the brachial plexus can help us when unusual clinical signs appear in the upper limb.

SELECTIVE REFERENCES

- [1] Natsis K, Paraskevas G, Tzika M. Five Roots Pattern of Median Nerve Formation. *Acta Medica (Hradec Kralove)*. 2016; 59(1):26-8.
- [2] Loh HK, Singh S, Suri RK. Unusual Branching Pattern of the Lateral Cord of the Brachial Plexus Associated with Neurovascular Compression: Case report. *Sultan Qaboos Univ Med J*. 2017; 17(1):e112-e5.
- [3] Budhiraja V, Rastogi R, Asthana AK. Variations in the formation of the median nerve and its clinical correlation. *Folia Morphol (Warsz)*. 2012; 71(1):28-30.

Corresponding author

MD, PhD, Assistant Professor

Corina-Georgina Matu

E-mail address: matu_corina@umft.ro

MORPHOLOGICAL CONSIDERATIONS CONCERNING MULTIPLE RENAL ARTS ON A CONTINUOUS SERIES OF 1,000 CASES EXAMINED BY MDCT ANGIOGRAPHY

Petru Matusz¹, Grațian Dragoslav Miclăuș², Nicoleta Iacob², Horia Pleș^{2,3}

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Multidetector Computed Tomography and Magnetic Resonance Imaging, Neuromed Diagnostic Imaging Centre, Timișoara, 16 Decembrie 1989 Bulevard, No. 43, 300218, Timișoara, România.

³Department of Neurosurgery, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

multiple renal arteries, number, anatomical variations, symmetry/asymmetry.

INTRODUCTION

The variation in the number of renal arteries represents the most common and clinically important renal vascular variation.

THE OBJECTIVES OF THE STUDY

The objectives of the study were to highlight: (i) the prevalence of MRA cases in a continuous series of patients; (ii) the number of additional renal arteries per patient; (iii) analysis of the degree of symmetry / asymmetry of MRA.

MATERIAL AND METHOD

A number of 5,607 patients with various peripheral vascular disorders were examined at the infradiaphragmatic level at Neuromed Imaging Center Timișoara, using MDCT angiography (64-slice MDCT system; SOMATOM Sensation, Siemens Medical Solutions, Forchheim, Germany). In addition the presence of MRA was analyzed. A number of 1,000 patients with MRA were identified. Before MDCT angiographic examining an written informed consent was obtained from all the patients for the X-ray examination and the use of iodinated contrast agents and also for using the obtained informations in scientific research.

RESULTS

This study highlights that: (i) cases with MRA represent 17.83% of the examined cases; (ii) the number of MRA varied between 1 and 8; 1 ARM in 63.20%; 2 ARMs in 26.10%; 3 ARM in 0.69%; 4 ARMs in 0.28%; 5 ARM in 0.07%; 6 ARMs in 0.02%; 8 ARM in 0.01% of cases; (iii) the bilateral symmetry of the ARM was highlighted in 21.20% of the cases; the right predominance in 42.20% of the cases, and the left

predominance in 37.60% of the cases.

CONCLUSIONS

The MRA number ranges from 1 to 8 renal arteries per case. The number of renal arteries varies between 1 and 5 per kidney. In the entire study group MRA are present in 17.83% of cases. The increase in the number of MRA per case is associated with the decrease in the percentage of presence (from 63.20% in the case of a single renal artery to 0.01% of the cases in the case of 8 MRA). The bilateral symmetry of the MRA is present in the percentage of 21.20%

SELECTIVE REFERENCES

- [1] Matusz P, Miclaus G, Ples H. Study of the renal additional arteries on the 1,000 CT angiography continuous series. Clin Anat 2011; 24:408.
- [2] Miclaus GD, Matusz P. Bilateral quadruple renal arteries. Clin Anat. 2012; 25(8):973-6.
- [3] Miclăuș GD, Matusz P. Bilateral triple renal arteries. Rom J Morphol Embryol. 2015; 56(4):1507-11.

Corresponding author

MD.PhD, Professor Petru Matusz
E-mail adress: matusz@umft.ro

CHARACTERIZATION OF DECELLULARIZED PORCINE AORTA AS TISSUE ENGINEERING SCAFFOLDS FOR VASCULAR APPLICATION

Tatiana Malcova¹, Tatiana Băluțel¹, Victor Popescu², Viorel Nacu¹

¹Laboratory of Tissue Engineering and Cell Culture, Department of Topographic Anatomy and Operator Surgery,

²Laboratory of genetics,

„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

KEYWORDS:

cardiovascular disease, tissue engineering, vascular graft, decellularization.

INTRODUCTION

Autologous vascular tissue remains the “gold standard” for small-diameter (<6,0 mm) arterial bypass, where currently available synthetic and biological prostheses show poor results due to low level compatibility, acute or chronic rejection, inflammatory reactions, thrombosis, aneurysm formation and calcification. Tissue engineering approaches may offer prospective options to create innovative and functional grafts. Recently, a novel process involving cells and cellular components removal from tissues and organs has gained significant interest in the field of biomedical researches.

THE OBJECTIVE OF THE STUDY

The aims of the present study are to evaluate the efficacy of three protocols of vessels decellularization and to determine their potential as vascular tissue-engineering scaffolds

MATERIAL AND METHODS

Porcine aorta specimens were decellularized by using three different protocols. One protocol used HCl, while the other two used SDS and EDTA in combination with Triton X-100 or DMSO. The decellularization was evaluated by means of histology (Hematoxylin and Eosin staining) and DNA content testing.

RESULTS

None of the protocols described in our experiment were completely effective in cell removal. Histological analysis demonstrated the presence of cellular material, while DNA content were high in all groups.

CONCLUSIONS

Our findings showed that 48 h detergent or chemical digestion cannot perform efficient decellularization. These protocols should be improved in order to provide desired acellular materials. In addition, before a large clinical application multilateral evaluation of obtained scaffolds (mechanical integrity of remaining extracellular matrix, residual toxicity, cytocompatibility) is essential.

SELECTIVE REFERENCES

- [1] Boccafoschi F, Botta M, Fusaro L, Copes F, Ramella M, Cannas M. Decellularized biological matrices: an interesting approach for cardiovascular tissue repair and regeneration. *J Tissue Eng Regen Med.* 2017; 11:1648–57.
- [2] Gilpin A, Yang Y. Decellularization strategies for regenerative medicine: from processing techniques to applications. *BioMed Research International.* 2017; 2017:9831534.
- [3] Guler S, Aydin HM, Lü LX, Yang Y. Improvement of Decellularization efficiency of porcine aorta using Dimethyl Sulfoxide as a penetration enhancer. *Artificial Organs.* 2018; 42(2):219–30.

Corresponding author

MD., PhD Student in Anatomy Tatiana Malcova
E-mail address: malcovatatiana92@mail.ru

AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE: A SINGLE PATHOLOGY DEPARTMENT BASED STUDY

Ioana Mihai¹, Emilian Gheorghe Olteanu^{1,2,3}, Adelina Gheju¹, Aura Jurescu¹, Octavia Vița¹, Remus Cornea^{1,2}, Anca Mureșan^{1,2}, Sorina Tăban^{1,2}, Alis Dema^{1,2}

¹ Department of Pathology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

² Department of Pathology, "Pius Brînzeu" County Emergency Hospital Timișoara, Liviu Rebreanu Bd., No. 156, 300723, Timișoara, România.

³ Centre for Gene and Cellular Therapies in the Treatment of Cancer – OncoGen, Liviu Rebreanu Bd., No. 156, 300723, Timișoara, România.

KEYWORDS:

autosomal dominant polycystic kidney disease, ADPKD, renal pathology.

INTRODUCTION

Autosomal dominant polycystic kidney disease (ADPKD) is a genetically heterogeneous disease, found in 1 in 500 to 1000 individuals. It is a progressive disorder characterized by the development and enlargement of cysts in the kidney (most common cystic kidney disease) and can affect other organs (e.g., liver, pancreas, and spleen). ADPKD is one of the leading causes of end-stage renal disease in adults.

THE OBJECTIVE OF THE STUDY

To provide a retrospective image of this entity in our pathology department and to review its clinicopathological characteristics.

MATERIAL AND METHODS

We used the digital database of the Pathology Department of the Emergency Clinical County Hospital "Pius Brînzeu", Timisoara to search for patients with an ADPKD diagnosis from 2009 to 2019. Only total nephrectomy specimens were included in the study.

RESULTS

In the 10 years of retrospective data examined, we identified a total number of 17 cases of ADPKD, out of which seven (41%) were male and ten (59%) were female patients, with a mean age of 52,11 years (38 years old the youngest and 66 years, the oldest patient). The majority (88%) of patients came from an urban environment, while a small minority (12%) had a rural residency. All cases showed markedly enlarged kidneys (mean dimensions of 18/12/10 cm), composed solely of cysts, with dimensions from less than a millimeter up to 4 to 6 cm in diameter. Three (18%) cases were associated with renal cell carcinoma, and four (23%)

cases developed renal adenomas.

CONCLUSIONS

Our findings are consistent with the previous findings in the literature. ADPKD is an uncommon kidney disease, affecting patients in the fourth to fifth decade of life, characterized by the development of renal cysts, which can frequently develop epithelial proliferations.

SELECTIVE REFERENCES:

- [1] Bostwick DG, Cheng L. Urologic surgical pathology. Philadelphia: Elsevier Health Sciences; 2014. p. 25-26.
- [2] Kumar V, Abbas AK, Aster JC. Robbins basic pathology e-book. Philadelphia: Elsevier Health Sciences; 2017. p.574-575.
- [3] Amin M, Grignon DJ, Srigley JR, Eble JN. Urological pathology. Wolters Kluwer Health Adis (ESP), 2013. p.14-16.

Corresponding author

MD. Assistant Professor Ioana Mihai
E-mail adress: ioana.mihai@umft.ro

THE ROLE OF THE OLFACTORY NERVE ANATOMY IN UNDERSTANDING THE NEGATIVE SYMPTOMS OF SCHIZOPHRENIA

Nicolae Nicoară¹, Daniela Rahotă¹, Gineta Holt¹, Angela Bucur¹,
Petru Mihancea³, Pop Alexandra²

¹Department of Anatomy and Embryology, Faculty of Medicine and Pharmacy, University of Oradea.

² Faculty of Medicine and Pharmacy, University of Oradea, ³University of Oradea,

1 Decembrie Square, No. 10, 410073 Oradea, România.

KEYWORDS:

olfactory nerve, schizophrenia, limbic system.

INTRODUCTION

The olfactory nerve is the first cranial nerve and is located in the nasal cavity where there are sensitive organelles formed by bipolar neurons sensitive to chemical stimuli given by different substances and translated as odor sensations in the central nervous system. Schizophrenia is a disease with complex symptomatology that includes positive and negative symptoms. The negative symptoms, although they have been studied since the recognition of schizophrenia, the disease, the understanding and the treatment have remained almost without result.

THE OBJECTIVE OF THE STUDY

The present study aims to discuss the connection between olfactory nerve and the limbic system.

MATERIAL AND METHODS

From an embryological point of view, the olfactory nerve forms at the end of week 4 of the nasal placode, at which are the sensory cells represented by bipolar neurons with dendrites at the level of the olfactory epithelium and the axon that crosses the cranial extremity of the telencephalon. Around them occurs the process of ossification in the cribriform blade of the ethmoid. In week 6, the cells of the olfactory bulb, representing the deutoneuron of the olfactory pathway, appear. The enlargement of the face and brain leads to the widening of the distance between the olfactory bulbs and their points of origin, thus forming the olfactory tracts. Also, the olfactory nerve has connections with the mammary bodies through the mammoth-thalamic Vicq d'Azyr bundle and with the Papez memory circuit. The negative symptoms (affective flattening, alogia or avolition) are related to the limbic system which is the center of fundamental emotions. Some studies have shown that there is a degeneration of neurons in areas of the limbic system in patients with schizophrenia.

RESULTS

Taking into account the close anatomical connection between the olfactory system and the limbic system one can consider the hypothesis that the sense of smell has to do with the negative symptoms of schizophrenia, given their complexity and the lack of scientific data regarding their origin. There is an incomplete understanding of the anatomy and physiology of the olfactory system, as well as a poor understanding of the origin of the negative symptoms of schizophrenia.

CONCLUSIONS

The anatomy and physiology of the olfactory sense is incompletely elucidated. From the anatomical point of view, it is considered that the olfactory system and the source of the negative symptoms are in the same areas. The anatomy and physiology of the limbic system will lead to a deeper understanding of the negative symptoms.

SELECTIVE REFERENCES

- [1] APA. Diagnostic and Statistical Manual of Mental Disorder. 4th edn revised. Washington: American Psychiatric Association; 2000, pag 297-312.
- [2] Schmidt AN. Embriologie specială. Deva: IntelCredo; 2002, pag 246-247
- [3] Georgia R, Schmidt N. Anatomia omului: sistemul nervos central. Cluj-Napoca: U.M.F. Cluj-Napoca; 1993.

Corresponding author

MD. Assistant Professor Nicolae Nicoară

E-mail Adres: nicduni@yahoo.com

IMMUNOHISTOCHEMISTRY IN THE MICROSCOPIC DIAGNOSIS OF BRONCHOPULMONARY CANCERS

**Nicolae Nicoară¹, Daniela Rahotă¹, Gineta Holt¹, Corina Beiusanu¹
Angela Bucur¹, Alexandra Pop²**

¹Department of Anatomy and Embryology, Faculty of Medicine and Pharmacy, University of Oradea,
1 Decembrie Square, No. 10, 410073 Oradea, România.

KEYWORDS:

TTF-1, Napsin-A, p40, p63.

INTRODUCTION

Bronchopulmonary cancer is considered by the WHO to be the most lethal form of neoplasia. WHO has made a classification of tumors according to histological criteria to allow for a proper treatment protocol to improve the chance of patient survival. The discovery of genetic therapies that target certain genes in the tumor phenotype, allow new methods of treatment, but require a more accurate diagnosis that can be achieved by immunohistochemistry. The WHO tumor classification according to histological criteria is the following: Epithelial tumors, mesenchymal tumors, histiocytic lymphomas, tumors of ectopic origin and metastatic tumors.

THE OBJECTIVE OF THE STUDY

To understand the most important markers for right diagnostic of lung cancer.

MATERIAL AND METHODS

The most common forms of lung cancer are those of epitheloid origin: adenocarcinoma, squamous cell carcinoma, large cell carcinoma, small cell carcinoma. In 2015, the WHO decided to classify large cell carcinoma as a solid adenocarcinoma if exhibits pancytokeratins markers TTF-1 (thyroid transcription factor) and / or Napsin-A (markers used also in differential diagnosis with squamous carcinomas). Squamous cell carcinoma is due to the squamous metaplasia of the respiratory epithelium that leads to malignant degeneration of these cells. There are two forms, a keratinized form and non-keratinized one. The absence of clear keratinization traces at microscopic level requires the use of p40 and p63 immunohistochemical markers for the diagnosis of certainty.

RESULTS

Immunohistochemistry imposes a new sub classification of tumors according to the expression of some markers of cell differentiation leading to new treatment and management behaviors of bronchopulmonary cancer patients.

CONCLUSIONS

Immunohistochemical markers are indispensable tools in the modern diagnosis of bronchopulmonary neoplasias. They provide a more reliable diagnosis of confidence and differentiation, eliminating diagnostic errors.

SELECTIVE REFERENCES

- [1] Hirsch FR, McElhinny A, Stanforth D, Ranger-Moore J, Jansson M, Kulangara K, et al. PD-L1 Immunohistochemistry Assays for Lung Cancer: Results from Phase 1 of the Blueprint PD-L1 IHC Assay Comparison Project. *J Thorac Oncol.* 2017; 12(2): 208-22.
- [2] Rimm DL, Han G, Taube JM, Yi ES, Bridge JA, Flieder DB, et al. A Prospective, Multi-institutional, Pathologist-Based Assessment of 4 Immunohistochemistry Assays for PD-L1 Expression in Non-Small Cell Lung Cancer. *JAMA Oncol.* 2017; 3(8):1051-8.
- [3] Ilie M, Hofman V, Dietel M, Soria JC, Hofman P. Assessment of the PD-L1 status by immuno-histochemistry: challenges and perspectives for therapeutic strategies in lung cancer patients. *Virchows Arch.* 2016; 468(5):511-25.

Corresponding author

MD. Assistant Professor Nicolae Nicoară
E-mail address: nicduni@yahoo.com

CORONARY ARTERIES MORPHOLOGY

Codruța Ileana Petrescu¹, Alina-Maria Șișu¹, Elena Pop¹,
Alexandra-Corina Faur¹, Sorin-Lucian Bolintineanu¹, Anca-Laura Maghiari¹,
Petru Matusz¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

crux cordis, left coronary artery, heart.

INTRODUCTION

Morphologic variability of the coronary arteries is high. Studying this variability means to understand how the heart's arteries travel. Inter coronary continuity is an uncommon situation. It can be considered as abnormality with a "terminal open feature" of the coronary circulation.

THE OBJECTIVE OF THE STUDY

The objective was to investigate the morphology of the coronary arteries using the macroscopic dissection technique and coronary angiographies.

MATERIAL AND METHODS

While the supply of the heart sternocostal surface is extremely regulate, the diaphragmatic surface is supplies by the circumflex and right coronary arteries. We have studied the types of the arterial supply on 50 human formolized hearts, from 25 males and 25 females, using the macroscopically dissection. Also, we have used 50 coronary angiographies, for the correlations.

RESULTS

It was determined the right coronary supply present in 34 of 50 hearts, representing 68%. Right hyper dominant type we have seen in 8 specimen (16%); right dominant type in 14 (28%); right weak hyper dominant type in 12 (24%). In the symmetric type the sternocostal surface supply is divided between the right coronary artery and the left coronary artery, in 13, representing 26% of cases. Left dominant type was present in 3 cases, representing 6% of all. We considered the "coronary dominance" term applied to heart diaphragmatic surface supply, being from the right coronary artery or the left coronary artery. If the posterior interventricular artery topographic diagnostic lead to the primary diagnostic of the coronary dominance, ventricular artery diagnostic will tel for sure if we confront a right or a left coronary dominance.

CONCLUSIONS

The "coronary dominance" term is used according to the origin of the circumflex artery, either from the right coronary artery, either the left coronary artery or from both, when the term is "co-dominance".

SELECTIVE REFERENCES

- [1] Ajayi NO, Vanker EA, Satyapal KS. Coronary artery dominance dependent collateral development in the human heart. *Folia Morphol (Warsz)*. 2017; 76(2):191-6.
- [2] Tomaszewski KA, Vikse J, Henry BM, Roy J, Pękala PA, Svensen M, Guay D, Saganiak K, Walocha JA. The variable origin of the lateral circumflex femoral artery: a meta-analysis and proposal for a new classification system. *Folia Morphol (Warsz)*. 2017;76(2):157-67.
- [3] Singh S, Ajayi N, Lazarus L, Satyapal KS. Anatomic study of the morphology of the right and left coronary arteries. *Folia Morphol (Warsz)*. 2017 May 29. [Epub ahead of print]

Corresponding author

MD.PhD, Assistant Professor
Codruța Ileana Petrescu
E-mail address: petrescu@umft.ro
codruta.petrescu@gmail.com

AZYGOS VENOUS SYSTEM VARIABILITY. CLINICAL ISSUES

**Codruța Ileana Petrescu¹, Alina-Maria Șișu¹, Elena Pop¹, Paul Bîcă¹,
Sorin-Lucian Bolintineanu¹, Roxana Țaga¹, Laura Bolintineanu^{1,2}**

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,

Eftimie Murgu Square, No.2, 300041, Timișoara, România

²Clinic of Ophthalmology, City Hospital Timișoara,

Square Martir Radian Belici, No.4, 300011, Timișoara, România.

KEYWORDS:

_venous system, azygos vein, tributary.

INTRODUCTION

Azygos veins system is a complex of abdominal parietal thoracic veins, which are cava cava and porto-caval anastomoses with great clinical importance, imaging and surgery. Anatomical variants of veins are considerable high.

THE OBJECTIVE OF THE STUDY

The study was aim to correlate the origin of the azygos veins with their clinic implications.

MATERIAL AND METHOD

The material consists of 52 adult human formalized trunks (28 males and 24 females). It was highlighted the morphological variability of azygos venous system formation and its clinical importance. There were dissected the mediastinal layers of the thoracic cavity, especially the venous layer containing the azygos venous system. It was highlighted the hemiazygos venous system draining into azygos vein, and also the variability of their tributaries. Also, it was estimated the level of draining into the azygos vein on the right side. The azygos venous system components were shown during dissection. A final systematized data was completed.

RESULTS

The veins of this system are: the greater azygos vein (AZV) HAZV (lesser azygos or hemiazygos vein) and accessory hemiazygos vein (AHAZV), left intercostal veins (LICV), right intercostal veins (RICV), and azygos lumbar vein (AZLV), inconstant. Based on dissections and processing the 52 cases data, were identified the following situations of AZVS: 17- 33.82% classic and 35- 66.71% variants.

AZVS: Complete: 24-44.36%; Incomplete: 28- 55.63%.

AZV: Single: 4 - 3,26%; Double: 0 - 0%; Absent: 0 - 0%.

HAZV: Present :44- 81.45%, Absent: 8- 18.54%.

AHAZV: Present: 32 – 62.90%, Absent: 20- 37.09%.

CONCLUSIONS

Accidental injury to venous developmental anomalies can lead to excessive hemorrhaging during surgical interventions. A knowledge of such anomalies before to operative procedures could be useful to surgeons operating on the posterior mediastinum.

SELECTIVE REFERENCES

[1] Piciucchi S, Barone D, Sanna S, Dubini A, Goodman LR, Oboldi D, et al. The azygos vein pathway: an overview from anatomical variations to pathological changes. *Insights Imaging*. 2014; 5(5):619-28.

[2] Ozbek A, Dalçik C, Colak T, Dalçik H. Multiple variations of the azygos venous system. *Surg Radiol Anat*. 1999; 21(1):83-5.

[3] Krakowiak-Sarnowska E, Wiśniewski M, Szpinda M, Krakowiak H. Variability of the azygos vein system in human foetuses. *Folia Morphol (Warsz)*. 2003; 62(4):427-30.

Corresponding author

MD.PhD, Assistant Professor

Codruța Ileana Petrescu

E-mail address: petrescu@umft.ro

codruta.petrescu@gmail.com

ANTERIOR CRUCIATE LIGAMENT (ACL) RECONSTRUCTION USING HAMSTRING TENDON GRAFT - A CASE REPORT

Codruța Ileana Petrescu¹, Alina-Maria Șișu¹, Elena Pop¹,
Alexandra-Corina Faur¹, Sorin-Lucian Bolintineanu¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România

KEYWORDS:

anterior cruciate ligament, semitendinosus muscle, reconstruction, tendon.

INTRODUCTION

Seen as a stabilizer of the knee joint, anterior cruciate ligament (ACL) is to limit the movement of the tibia in relation to the femur from the posterior toward anterior and at the same time to prevent an anterior movement of the tibia to the femur, and limiting an internal rotation of tibia in relation to the femur. In ACL rupture the ligament heads distance themselves from one another and are not returning to the original site as might happen to the other ligaments of the knee joint (tibial collateral ligament and fibular collateral ligament), where surgical reconstruction is necessary.

THE OBJECTIVE OF THE STUDY

The aim is to reconstruct the ACL using hamstring tendon graft, in order to save the function of the knee.

MATERIAL AND METHODS

A 27 years old, male, suffered a skiing accident by falling, patient accused a right knee joint pain and felt a crack sensation because of ACL rupture. In an attempt to support his weight on his right leg the patient found a great instability of the joint. It is reported that the patient is clinically healthy, showing no acute or chronic disease.

RESULTS

In our case, both tests for the instability of the knee joint were positive. After laboratory investigations consisting in sagittal radiography of the knee joint to rule out any bone lesions, MRI is done, putting it accurate diagnosis of ACL injury, more precisely an ACL rupture. For therapeutic purpose is decided arthroscopy, ACL reconstruction was done using semitendinosus muscle tendon. Functional recovery takes between 6-8 months, mainly consisting of physiotherapy. Evolution is very good

CONCLUSIONS

In classical literature ACL rupture is considered "the beginning of the end of the knee." In the absence of function of this ligament the joint damage continues through joint menisci lesions, cartilage lesions, and finally the gonarthrosis disease appearance, whose treatment is only articular endoprosthetic replacement. We believe that for physically active individuals with age around 50-60; this type of ligament reconstruction is indicated in the presence of ACL ruptures.

SELECTIVE REFERENCES

- [1] Vaillant ER, Parks BG, Camire LM, Hinton RY. Five-Strand versus Four-Strand Hamstring Tendon Graft Technique for Anterior Cruciate Ligament Reconstruction: A Biomechanical Comparison. *J Knee Surg.* 2017; 30(9):916-9.
- [2] Śmigielski R, Zdanowicz U, Drwięga M, Ciszek B, Williams A. The anatomy of the anterior cruciate ligament and its relevance to the technique of reconstruction. *Bone Joint J.* 2016; 98-B(8):1020-6.
- [3] Siegel L, Vandenakker-Albanese C, Siegel D. Anterior cruciate ligament injuries: anatomy, physiology, biomechanics, and management. *Clin J Sport Med.* 2012; 22(4):349-55.

Corresponding author

MD.PhD, Assistant Professor
Codruța Ileana Petrescu
E-mail address: petrescu@umft.ro
codruta.petrescu@gmail.com

ABSTRACT

THALIDOMIDE-INDUCED EMBRYOPATHY

Alexandra Pop¹, Daniela Rahotă², Petru Mihancea³, Razvan Pîrvan²,
Nicolae Nicoară²

¹Faculty of Medicine and Pharmacy, University of Oradea,

²Department of Anatomy and Embryology, Faculty of Medicine and Pharmacy, University of Oradea,

³ University of Oradea,

1 Decembrie Square, No. 10, 410073 Oradea, România.

KEYWORDS:

thalidomide, phocomelia, storkmark haemangioma.

INTRODUCTION

Thalidomide is a cytostatic used in the treatment of multiple myeloma, as well as in the treatment of leprosy complications since the 1960s. The case of thalidomide was the first drug that showed a difference in reactivity in the human species compared to other species (in mice, thalidomide had no mutagenic effect). The most obvious defects were phocomelia and also polydactyl from the lower limb was an effect of thalidomide.

THE OBJECTIVE OF THE STUDY

The present study aims to discuss the negative effects of thalidomide.

MATERIAL AND METHODS

We analyzed the factors involved in the development of thalidomide-induced embryopathy. It is assumed that there is a critical period in which the embryo is sensitive to the effects of thalidomide. This period is between days 20 and 36 after fertilization. This corresponds to the closure of the neural tube, the differentiation of the mesoderm, respectively the formation of limbs. Internal organ damage, such as the heart, kidneys, genital organs, and gastrointestinal tract, has also been observed. In the kidneys, hypoblastic kidneys, rotational defects or ectopic malformations were observed. Anorectal stenosis, intestinal atresia, pyloric stenosis and inguinal hernia were observed in the intestine. At the level of the face as a marker of thalidomide-induced embryopathy is a hemangioma of the forehead, called "STORKMARK". At the eye level, thalidomide may also have reduced eye volume (micro-ophthalmia), or even absence (anophthalmos).

RESULTS

Thalidomide is one of the medical failures in terms of drug testing that has resulted in thousands of victims around the world. The error started from the different effect that thalidomide has on the different species. Thus, in laboratory mice it had no mutagenic ef-

fect, whereas in humans, mutagenic effects were present.

CONCLUSIONS

The main embryopathy given by thalidomide is phocomelia due to the genetic mutations caused by it. There was a clear link between thalidomide administration and phocomelia.

SELECTIVE REFERENCES

- [1] Bareluc L, Neagu N. Embriologia Umană Normală și Patologică. București: Editura Medicală, 1987, 244-5.
- [2] Grigrescu Sido F. Embriologie Generală și Specială. Cluj-Napoca: Casa cărții de știință, 2003, 107-10.
- [3] Vargesson N. Thalidomide-induced teratogenesis: History and mechanisms. Birth Defects Res C Embryo Today. 2015; 105(2): 140-56.

Corresponding author

MD. Assistant Professor Alexandra Pop
E-mail address: alepop95@yahoo.com

ANATOMIC ASSESSMENT OF THE CEREBELLAR ARTERIES VIA DISSECTION

Elena Pop¹, Elena Samfirescu¹, Iulia-Camelia Ciobanu¹,
Sorin Lucian Bolintineanu¹, Laura Bolintineanu², Petru Matusz¹

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România

²Clinic of Ophthalmology, City Hospital Timișoara, Square Martir Radian Belici, No.4, 300011, Timișoara, România.

KEYWORDS:

cerebellar artery, cerebellar hemisphere, vertebral artery.

INTRODUCTION

Anteroinferior cerebellar and posteroinferior cerebellar arteries are distributed to the anterior and lateral portions of the cerebellar hemispheres inferior surface, where they make an important anastomosis. Also, these arteries show a great morphologic variability.

THE OBJECTIVE OF THE STUDY

The present study aims to discuss the anatomic variability of the cerebellar arteries.

MATERIAL AND METHODS

The study was made on 20 specimens of cerebral trunk and cerebellum, using adult formolized bodies (ages between 44 and 64 years, gender ratio 1:1). The bodies underwent macroscopic and mezo-scopic dissection (microsurgical magnifying glasses, 4.5x). Moreover, have been assessed in situ neurovascular relations in the posterior cranial fossa.

RESULTS

Right bi hemispheric posteroinferior cerebellar artery (RBPICA) was identified as having origin from basilar artery (BA), immediately after the union of the vertebral arteries forming BA. It continues with a trajectory on the anterior surface of medulla oblongata, lying on its right lateral side. From the lateral bulbar segment of this, PICA was originated as a common trunk, distributed in the rostral branch of the PICA. From the tonsilobulbar segment of RBICA we found another trunk, distributed to the caudal branch of AICA. Distal, the telovelar tonsilar segment of RBPICA bifurcates into two cortical trunks, supplying the cerebellar hemispheres. Contralateral PICA presented an initial trajectory over the cerebellar vermis. Contralateral PICA was absent.

CONCLUSIONS

Bilateral cerebellar infarctions are usually attributed to a bi hemispheric distribution of PICA in the most of clinical cases. RBPICA variant is a very rare anatomical variant, in which one PICA distributes both the territories. Anatomic literature does not show any dissection of RBPICA.

REFERENCES

- [1] Fine AD, Cardoso A, Rhoton AL, Jr. Microsurgical anatomy of the extracranial-extradural origin of the posterior inferior cerebellar artery. *Journal of neurosurgery*. 1999; 91(4):645-52.
- [2] Hardy DG, Rhoton AL, Jr. Microsurgical relationships of the superior cerebellar artery and the trigeminal nerve. *J Neurosurg*. 1978; 49(5):669-78.
- [3] Kawashima M, Rhoton AL, Jr., Tanriover N, Ulm AJ, Yasuda A, Fujii K. Microsurgical anatomy of cerebral revascularization. Part II: posterior circulation. *Journal of neurosurgery*. 2005; 102(1):132-47.

Corresponding author

MD.PhD, Associate Professor Elena Pop
E-mail address: dr.elenapop@gmail.com

MEDULLA OBLONGATA PERFORATING ARTERIES- MEZOSCOPIC ANATOMIC ASSESSMENT

**Elena Pop¹, Anca-Laura Maghiari¹, Carmen-Camelia Haivas¹,
Luminioara-Maria Roşu¹, Agneta-Maria Pusztai¹, Daniel Breban Schwarzkopf²**

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Medical student, 6th Year, Faculty of Dental Medicine, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

cerebellar artery, cerebellum, bulbar pyramid.

INTRODUCTION

The cerebellum, medulla oblongata and pons arteries are very important in their distribution to supply these territories. They provide blood supply to the posterior cranial fossa. Also, they determine an accurate surgical approach in this area.

THE OBJECTIVE OF THE STUDY

The objective of the study is to assess the perforating arteries from the medulla oblongata and pons via mezosopic dissection. There are also important to study the anastomoses between the perforating branches with the basilar artery, posterior inferior cerebellar artery and anterior inferior cerebellar artery, because they have a great clinical importance.

MATERIAL AND METHODS

Study was done on 11 specimens of formalized medulla oblongata and pons. Vertebral artery branches was arranged into medial and lateral divisions. It was measured the distance of spinal arteries from their origin to the vertebrobasilar junction.

RESULTS

There was identified in two specimens a left longer vertebral artery; longer in the right side in 5 specimens and were equal in 4. Vertebrobasilar junction was located in the bulbopontine sulcus in 4 cases, 2 mm inferior to the bulbopontine sulcus, and in one case 1-7 mm superior of bulbopontine sulcus in 6. The medial were represented by the anterior spinal artery and foramen caecum. Anterior spinal artery origin (absent in the left part in one specimen and absent in the right side in 2 specimens was located 5-11 mm proximal to vertebrobasilar junction in the right and 6-17 mm proximal to vertebrobasilar junction in the left. Lateral branches of the vertebral artery included also posterior inferior cerebellar artery.

On the right side were 26 specimens, in the left 20.

CONCLUSIONS

Most of the lateral branches outgo between the posteroinferior cerebellar artery origin and vertebrobasilar junction. They presented anastomosis with perforating branches of the basilar artery, with posterior inferior cerebellar artery and anterior inferior cerebellar artery. Foramen caecum of Vicq d'Azyr branches had origin from vertebral, basilar and anterior spinal arteries. Bulbar pyramid branches outwent from basilar, vertebral and anterior spinal arteries. Olivary perforating arteries originated from basilar, vertebral, inferior cerebellar and anterior spinal arteries.

REFERENCES

- [1] Coffee RE, Nicholas JS, Egan BM, Rumboldt Z, D'Agostino S, Patel SJ. Arterial compression of the retro-olivary sulcus of the medulla in essential hypertension: a multivariate analysis. *Journal of hypertension*. 2005; 23(11):2027-31.
- [2] Nicholas JS, D'Agostino SJ, Patel SJ. Arterial compression of the retro-olivary sulcus of the ventrolateral medulla in essential hypertension and diabetes. *Hypertension*. 2005; 46(4):982-5.
- [3] Naraghi R, Gaab MR, Walter GF, Kleineberg B. Arterial hypertension and neurovascular compression at the ventrolateral medulla. A comparative microanatomical and pathological study. *Journal of neurosurgery*. 1992; 77(1):103-12.

Corresponding author

MD.PhD, Associate Professor Elena Pop
E-mail address: dr.elenapop@gmail.com

RARE SYNOVIAL CYST IN THE POSTERIOR ASPECT OF THE LEG

Elena Pop¹, Laura Bolintineanu^{1,2}, Luminioara-Maria Roșu¹
Daniel Breban Schwarzkopf³, Ecaterina Dăescu¹, Geanina Tăpălagă⁴

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Clinic of Ophthalmology, City Hospital Timișoara,

Square Martir Radian Belici, No.4, 300011, Timișoara, România.

³Medical student, 6th Year, Faculty of Dental Medicine, "Victor Babeș" University of Medicine and Pharmacy Timișoara,

⁴Discipline of Odontotherapy and Endodontics, Faculty of Dentistry, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

cerebellar artery, cerebellum, bulbar pyramid.

INTRODUCTION

The cerebellum, medulla oblongata and pons arteries are very important in their distribution to supply these territories. They provide blood supply to the posterior cranial fossa. Also, they determine an accurate surgical approach in this area.

THE OBJECTIVE OF THE STUDY

The objective of the study is to assess the perforating arteries from the medulla oblongata and pons via mesoscopic dissection. There are also important to study the anastomoses between the perforating branches with the basilar artery, posteroinferior cerebellar artery and anteroinferior cerebellar artery, because they have a great clinical importance.

MATERIAL AND METHODS

Study was done on 11 specimens of formalized medulla oblongata and pons. Vertebral artery branches was arranged into medial and lateral divisions. It was measured the distance of spinal arteries from their origin to the vertebrobasilar junction.

RESULTS

There was identified in two specimens a left longer vertebral artery; longer in the right side in 5 specimens and were equal in 4. Vertebrobasilar junction was located in the bulbopontine sulcus in 4 cases, 2 mm inferior to the bulbopontine sulcus, and in one case 1-7 mm superior of bulbopontine sulcus in 6. The medial were represented by the anterior spinal artery and foramen caecum. Anterior spinal artery origin (absent in the left part in one specimen and absent in the right side in 2 specimens was located 5-11 mm proximal to vertebrobasilar junction in the right and 6-17 mm proximal to vertebrobasilar junction in the left. Lateral branches of the

vertebral artery included also posteroinferior cerebellar artery. On the right side were 26 specimens, in the left 20.

CONCLUSIONS

Most of the lateral branches outgo between the posteroinferior cerebellar artery origin and vertebrobasilar junction. They presented anastomosis with perforating branches of the basilar artery, with posteroinferior cerebellar artery and anteroinferior cerebellar artery. Foramen caecum of Vicq d'Azyr branches had origin from vertebral, basilar and anterior spinal arteries. Bulbar pyramid branches outwent from basilar, vertebral and anterior spinal arteries. Olivary perforating arteries originated from basilar, vertebral, inferior cerebellar and anterior spinal arteries.

REFERENCES

- [1] Coffee RE, Nicholas JS, Egan BM, Rumboldt Z, D'Agostino S, Patel SJ. Arterial compression of the retro-olivary sulcus of the medulla in essential hypertension: a multivariate analysis. *Journal of hypertension*. 2005; 23(11):2027-31.
- [2] Nicholas JS, D'Agostino SJ, Patel SJ. Arterial compression of the retro-olivary sulcus of the ventrolateral medulla in essential hypertension and diabetes. *Hypertension*. 2005; 46(4):982-5.
- [3] Naraghi R, Gaab MR, Walter GF, Kleineberg B. Arterial hypertension and neurovascular compression at the ventrolateral medulla. A comparative microanatomical and pathological study. *Journal of neurosurgery*. 1992; 77(1):103-12.

Corresponding author

MD.PhD, Associate Professor Elena Pop
E-mail address: dr.elenapop@gmail.com

ABSTRACT

SUPERIOR BRONCHIAL ARTERIES ORIGIN. ANATOMIC STUDY

Elena Pop¹, Codruța-Ileana Petrescu¹, Daniel Breban Schwarzkopf²,
Iulia-Camelia Ciobanu¹, Geanina Tăpălagă³, Alina-Maria Șișu¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Medical student, 6th Year, Faculty of Dental Medicine, "Victor Babeș" University of Medicine and Pharmacy Timișoara,

³Discipline of Odontotherapy and Endodontics, Faculty of Dentistry,

"Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

bronchial artery, subclavian artery, mediastinum.

INTRODUCTION

Even they are infrequent, the superior bronchial arteries originating in the subclavian artery or in branches of it, in the root of the neck. They are important during failures of embolizations for haemoptysis and during surgery. These were exclusively diagnosed on the right side where, independently to their site of origin, were following the right vagus nerve within mediastinum and can be considered derivatives of the fourth aortic arch.

THE OBJECTIVE OF THE STUDY

The present study was performed based upon dissections at human adult formalised cadavers where bronchial arteries with cervical origin were found.

MATERIAL AND METHODS

Anatomic study of bronchial arteries cervical origin was performed during macroscopic dissection, on 13 adult formolized bodies, belonging to the Anatomy laboratory. There were followed via dissection the bronchial arteries from their origin to the mediastinum.

RESULTS

Prescalenic part branches of the right subclavian artery highlighted the followings: all branches origin, conventional described: vertebral artery, thyrocervical trunk, costocervical trunk and internal thoracic artery. There were emphasised two morphological variations: suprascapular artery origin belongings to the subclavian artery, just inferior to thyrocervical trunk origin from the same vessel. In our dissection we found 4 cases as originated of this type. From internal thoracic artery outgoes a descending consistent branch, satellite of the right vagus nerve into mediastinum. We found 6 of this type. Superior bronchial arteries can be considered as derivatives from dorsal aorta or the proximal parts of the aortic branches. We also found 3 cases of a superior bronchial

artery as having origin from the common carotid artery.

CONCLUSIONS

Bronchial arteries origin at the neck level must be known by clinicians, both in surgery practice and in the embolized cases failures (caused by haemoptysis). Their calibre is very important as criterion during the superior bronchial embolizations.

SELECTIVE REFERENCES

[1] Funami Y, Okuyama K, Koide Y, Sakamoto A, Kouzu T, Yamamoto Y, Seki Y, Shimada Y, Isono K. Anatomical study on the right bronchial artery for operation of esophageal cancer through right thoracotomy with special reference to the intercostobronchial arteries. *Nippon Kyobu Geka Gakkai Zasshi*. 1993;41(12):2325-32

[2] Gailloud Ph, Albayram S, Heck DV, Murphy KJ, Fasel JHD. Superior Bronchial Artery Arising from the Left Common Carotid Artery: Embryology and Clinical Considerations - *Journal of Vascular and Interventional Radiology*. 2002; 13:851-3.

[3] O'Rahilly R, Debson H, Summerfield TK. Subclavian origin of bronchial arteries. *Anat Rec*. 1950; 108: 227-39.

Corresponding author

MD.PhD, Associate Professor Elena Pop
E-mail address: dr. elenapop@gmail.com

FENESTRATED VERTEBRAL ARTERY – ANATOMO CLINICAL CORRELATIONS

**Elena Pop¹, Elena Samfirescu¹, Iulia-Camelia Ciobanu¹,
Bolintineanu Laura², Daniel Breban Schwarzkopf², Carmen-Camelia Haivas¹**

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Medical student, 6th Year, Faculty of Dental Medicine, "Victor Babeş" University of Medicine and Pharmacy Timișoara,

KEYWORDS:

cerebellar artery, aneurysm, vertebral artery.

INTRODUCTION

Arterial abnormalities in the vertebrobasilar system are results of interferences during their primitive development. Congenital fenestrations of the cerebral vessels are considered without clinical significance. Cerebral vessels fenestrations, including the vertebral arteries are, usually, unilateral.

THE OBJECTIVE OF THE STUDY

The objective of this study is to highlight the vertebral arteries fenestrations during macroscopic and mezosopic dissections. These cases associated with aneurysms are rather rarely seen in clinics.

MATERIAL AND METHODS

We have highlighted via micro dissection method (using an in situ cerebral trunk and cerebellum) a left fenestrated vertebral artery in its distal area. Vertebral basilar junction was located to ~4 mm caudally to the bulbopontine sulcus. Bilateral caliber asymmetry of the vertebral arteries was highlighted on 12 formalized parts of cerebellum and midbrain.

RESULTS

Left vertebral artery fenestration was located on the anterior aspect of the inferior extremity of the bulbar pyramid, being formed by two unequal arterial bars, one thin, rostral, and other thick, caudal. From the caudal bar of fenestration, which represents the main vascular trunk of fenestration, the anterior spinal artery descends. Its origin was higher than its fellow contralateral. Incidence of the vertebral artery fenestrations (angiographic documented), was reported as 0.3-2.0%. This ratio is the first evidence of a dissected vertebral artery, and the first case in which a radicular branch of the hypoglossal nerve is identified as travelling through the vertebral artery fenestration.

CONCLUSIONS

Usually, the vertebral artery fenestrations are associated with thromboembolic cerebral infarctions. These morphological variants are not rare, and a neurologic damage caused by a fenestration is not enough documented. In patients having anomalies of the craniovertebral junction, the frequency of vertebral artery anomalies is high.

SELECTIVE REFERENCES

- [1] Naraghi R, Gaab MR, Walter GF, Kleineberg B. Arterial hypertension and neurovascular compression at the ventrolateral medulla. A comparative microanatomical and pathological study. *Journal of neurosurgery.* 1992; 77(1):103-12.
- [2] Morales F, Albert P, Alberca R, de Valle B, Narros A. Glossopharyngeal and vagal neuralgia secondary to vascular compression of the nerves. *Surgical neurology.* 1977; 8(6):431-3.
- [3] Macchi V, Porzionato A, Parenti A, De Caro R. The course of the posterior inferior cerebellar artery may be related to its level of origin. *Surg Radiol Anat.* 2004; 26(1):60-5.

Corresponding author

MD.PhD, Associate Professor Elena Pop
E-mail address: dr.elenapop@gmail.com

ABSTRACT

THE DEVELOPMENTAL FEATURES OF CRANIOFACIAL COMPLEX DUE TO THE FORMATION OF HARD PALATE

Oleksandra-Mariia Popelyuk¹, Dmytro Proniaiev²,
Inna Kashperuk-Karpiuk²

¹M.G. Turkevich Department of Human Anatomy,
Higher State Educational Establishment of Ukraine „Bukovinian State Medical University” Chernivtsi,
Teatralna sq. 2, Chernivtsi, Ukraine.

²Department of Anatomy, Clinical Anatomy and Operative Surgery,
Higher State Educational Establishment of Ukraine „Bukovinian State Medical University” Chernivtsi,
Teatralna sq. 2, Chernivtsi, Ukraine.

KEYWORDS:

craniofacial complex, palate, human ontogenesis.

INTRODUCTION

Structures of the craniofacial complex, such as the mandible, palate, temporomandibular joint, and dentition, each offer valuable paradigms for studying development, structure, and functions. Craniofacial development is clinically important since craniofacial anomalies are amongst the most common congenital anomalies found in humans.

MATERIAL AND METHODS

The specimen of 18 embryos and 16 pre-fetus were selected. Have been used: macroscopy, microscopy of consecutive histological sections series, conventional and thin preparations

RESULTS AND DISCUSSION

During early development (4 weeks), the primitive oral cavity is bounded by five facial swellings, produced by proliferating zones of mesenchyme lying beneath the surface ectoderm — the frontonasal, mandibular and maxillary processes. In a 5-week-old embryo, localized thickenings of ectoderm give rise to the nasal and lens placodes. These placodes will form the olfactory epithelium and the lenses of the eyes respectively. The nasal placodes sink into the underlying mesenchyme, forming two blind-ended nasal pits (the primitive nasal cavities). In the 6-week-old embryo, the two mandibular processes fuse in the midline to form the tissues of the lower jaw. The mandibular processes and maxillary processes meet at the angle of the mouth, thus defining its outline. The maxillary processes subsequently “replace” the medial nasal processes to meet in the midline and thus contribute all the tissue for the upper lip. Fusion of the facial processes ultimately produces the ‘intermaxillary segment’. It is from this area that the primary palate will develop. The definitive palate (or secondary palate) appears in the human fetus between the sixth and eighth weeks of intrauterine life. Fusion of

the palatal processes is complete by the twelfth week of development. Behind the secondary nasal septum, the palatal shelves fuse to form the soft palate and uvula.

CONCLUSIONS

Once fusion is complete, the hard palate ossifies intramembranously from four centres of ossification, one in each developing maxilla and one in each developing palatine bone: 1) the maxillary ossification centre lies above the developing deciduous canine tooth germ and appears in the eighth week of development 2) the palatine centres of ossification are situated in the region forming the future perpendicular plate and appear in the eighth week of development.

SELECTIVE REFERENCES

- [1] Alappat SR, Zhang Z, Suzuki K, Zhang X, Liu H, Jiang R, Yamada G, Chen Y. The cellular and molecular etiology of the cleft secondary palate in Fgf10 mutant mice. *Dev Biol.* 2005; 277:102-13.
- [2] Carrette MJ, Ferguson MW. The fate of medial edge epithelial cells during palatal fusion in vitro: an analysis by DiI labelling and confocal microscopy. *Development.* 1992; 114:379-88.
- [3] Christensen K, Juel K, Herskind AM, Murray JC. Long term follow up study of survival associated with cleft lip and palate at birth. *Br Med J.* 2004; 328:12.

Corresponding author

MD. Associate Professor

Oleksandra-Mariia Popelyuk

E-mail address:

alexandra.popelyuk@gmail.com

ABSTRACT

MORPHOLOGICAL FEATURES OF UTERINE VESSELS IN HUMAN ONTOGENESIS

Dmytro Proniaiev¹, Inna Kashperuk-Karpiuk¹,
Oleksandra-Mariia Popelyuk²

¹Department of Anatomy, Clinical Anatomy and Operative Surgery,
Higher State Educational Establishment of Ukraine „Bukovinian State Medical University” Chernivtsi,
Teatralna sq. 2, Chernivtsi, Ukraine.

²M.G. Turkevich Department of Human Anatomy,
Higher State Educational Establishment of Ukraine „Bukovinian State Medical University” Chernivtsi,
Teatralna sq. 2, Chernivtsi, Ukraine.

KEYWORDS:

uterine vessels, ontogenesis, morphological features

INTRODUCTION

The uterus referred to since Biblical times as the ‘womb’, is a very remarkable organ, capable of expanding to contain a full-grown baby and of shedding its lining up to 500 times during one’s life at the time of monthly periods.

THE OBJECTIVE OF THE STUDY

A parallel examination of clinical and post-mortem uterine venograms in mature and elderly patients was performed on 15 preparations of the uterus of females who died as a result of craniocerebral trauma and mechanical asphyxia, as well as clinical phlebograms of perivaginal visceral phlebography obtained from the collection of the Department of Obstetrics and Gynecology of BSMU.

RESULTS

The analysis of X-ray photographs of venous vessels showed that there is a dense venous network in the uterine wall, giving origin to numerous venous vessels. After fusing, these vessels form 2-4 large trunks, which pass in a broad ligament of the uterus. Large trunks of the uterine plexus in women who gave birth have a few and not very pronounced bends. In nulliparous women, the bends of the venous vessels are weak or absent. Venous vessels of the uterine wall do not have the spiral tortuosity common to the arterial network of the uterus of women, especially those who gave birth. Malignant venous zones of the “embryonic suture” were not defined, the numerous anastomoses, atrophic processes that change the structure of the uterine wall in elderly women affect both arterial and venous architectonics

CONCLUSIONS

In women in the menopausal period, the pattern of intrauterine veins is poor. Large parametrial veins are well contrasted, they have a larger diameter than in the mature period. In the elderly women, varicose-dilated uterine veins are also detected. Thus, the revealed changes from the venous vessels of the uterus prove the functional and age-related reorganization.

SELECTIVE REFERENCES

- [1] Dias T, Patabendige, M, Herath RPP, Garvik TI, Liland F, Arulkumaran S. Blood flow changes in pelvic vessels associated with the application of an abdominal compression belt in healthy postpartum women. *Ceylon Med J.* 2017; 62(4):228-32.
- [2] Palmer SK, Zamudio S, Coffin C, Parker S, Stamm E, Moore LG. Quantitative estimation of human uterine artery blood flow and pelvic blood flow redistribution in pregnancy. *Obstet. Gynecol.* 1992; 80, 1000–6.
- [3] Burchell RC. Arterial blood flow into the human intervillous space. *Am. J. Obstet. Gynecol.* 1967; 98, 303–11.

Corresponding author

PhD. Associate Professor

Inna Kashperuk-Karpiuk

E-mail address: kashperuk.inna@gmail.com

ABSTRACT

THE MECKEL DIVERTICULUM. ANATOMICAL AND SCINTIGRAPHIC STUDY

**Agneta-Maria Pusztai¹, Ecaterina Dăescu¹, Luminioara-Maria Roșu¹,
Delia-Elena Zăhoi¹, Dorina Sztika¹, Lucia Stoican¹, Petru Matusz¹**

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

omphalo-mesenteric duct, Meckel diverticulum, ectopic gastric mucosa.

INTRODUCTION

Meckel diverticulum is the most common cause of lower gastrointestinal hemorrhage in previously healthy infants. Meckel scintigraphy should be used when the patient is not actively bleeding.

THE OBJECTIVE OF THE STUDY

The objective of the study was to localize ectopic gastric mucosa in a Meckel diverticulum as the source of unexplained gastrointestinal bleeding.

MATERIAL AND METHODS

The study material consisted of 15 patients aged between 5 months and 14 years, having the presumptive diagnosis of Meckel diverticulum. Ectopic gastric mucosa is visible as a focal, localized area of uptake that appears at the same time as the activity in the normal gastric mucosa. ^{99m}Tc-pertechnetate is taken up by the mucin-producing cells of gastric mucosa and is then secreted into the gut lumen. The recommended administered activity for children is 0.05 mCi/kg, i.v. (min 0.25 mCi). The patient is positioned supine, and the imaging field is the abdomen and pelvis. Anterior abdominal dynamic images are obtained at a frame rate of 1 image every 30–60 s for at least 30 min. Additional static images are recommended at the end of the dynamic acquisition.

RESULTS

Meckel diverticulum is the vestigial remnant of the omphalo-mesenteric duct and represents the most common congenital anomaly of the gastrointestinal tract. It is normally located on the antimesenteric border of the terminal ileum within 80–100 cm of the ileocecal valve. Approximately 57% of Meckel diverticula contain ectopic gastric mucosa, which actively secretes the hydrochloric acid responsible for mucosal ulcerations within the diverticulum and unprotected wall of the adjacent ileum. The most common sign of Meckel diverticulum is gross rectal bleeding. The results of the digestive scin-

tigraphic investigations to highlight the Meckel diverticulum, presenting ectopic gastric mucosa, were the following: (i) positive diagnosis - in 2 cases (13.33%), result related to other studies; (ii) inconclusive diagnosis - in one case (6.66%); (iii) negative diagnosis - in 12 cases (80%).

CONCLUSIONS

Avid accumulation of ^{99m}Tc-pertechnetate in gastric mucosa makes scintigraphy with ^{99m}Tc-pertechnetate the study of choice for identifying ectopic gastric mucosa in a Meckel diverticulum. Meckel Diverticulum has been identified in 2 cases of girls, 10 months old and 1 year respectively, although in other studies there is a slight predominance of the male.

SELECTIVE REFERENCES

- [1] Lequet J, Menahem B, Alves A, Fohlen A, Mulliri A. Meckel's diverticulum in the adult. *J Visc Surg.* 2017; 154(4):253-9.
- [2] Clark JK, Paz DA, Ghahremani GG. Imaging of Meckel's diverticulum in adults: pictorial essay. *Clin Imaging.* 2014; 38(5):557-64.
- [3] Rho JH, Kim JS, Kim SY, Kim SK, Choi YM, Kim SM, et al. Clinical Features of Symptomatic Meckel's Diverticulum in Children: Comparison of Scintigraphic and Non-scintigraphic Diagnosis. *Pediatr Gastroenterol Hepatol Nutr.* 2013; 16(1):41-8.

Corresponding author

MD.PhD, Assistant Professor

Agneta-Maria Pusztai

E-mail adress: pusztai.agneta@umft.ro

agipusztai@yahoo.com

ABSTRACT

THE LYMPHATIC DRAINAGE OF THE BREAST. THE SENTINEL LYMPH NODE CONCEPT.

**Agneta-Maria Pusztai¹, Luminioara-Maria Roşu¹, Anca-Laura Maghiari¹,
Raul Lupulescu², Victor Bogdan Buciu³, Zorin-Petrişor Crăiniceanu⁴**

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

sentinel lymph node, lymphatic channels, lymphoscintigraphy.

INTRODUCTION

The Sentinel Lymph Node (SLN) concept states that the spread of a primary tumour is step-wise via the lymphatic vessels to the first lymph node encountered in the corresponding regional draining basin. These lymph nodes most probably retain occult metastases and are named the SLN.

THE OBJECTIVE OF THE STUDY

Accurate lymph node staging is essential for both prognosis (of early-stage disease) and treatment (for regional control of disease) in patients with breast cancer.

MATERIAL AND METHODS

The study material was represented by a group of 45 female patients, aged between 31 and 74 years, who underwent lymphoscintigraphic examination. A small-particle colloid (5-100 nm.), ^{99m}Tc-Nanocol, is preferred agent, in dose of 5 to 30 MBq (same day protocol). When using superficial (periareolar, subdermal, intradermal, or subareolar) injections, volumes of 0.05–0.5 mL are preferred. At acquisition time point at least two images are acquired: anterior and lateral.

RESULTS

Breast lymphatic drainage is predominantly axillary, but there are also secondary pathways of considerable practical importance in breast cancer, with the possibility of NLS being located on the internal mammary, supraclavicular or contralateral pathways. Scintigraphic detection of NLS was possible in 38 cases (84.45%): (i) 30 cases (78.95%) showed unidirectional lymphatic drainage to the homolateral axillary groups; (ii) 8 cases (21.05%), having bidirectional lymphatic drainage to the axillary groups and to the internal mammary groups. At the level of the axillary groups, scintigraphic detection of NLS was revealed as following: (i) in the anterior group - 24 cases (80%); (ii) in the: central group - 4 cases (13,33%); (iii) in the apical group - 2 cases (6.66%).

CONCLUSIONS

In 78.95% of cases, the lymphatic drainage of the breast is unidirectional to the homolateral axilla, with predominance (80% of cases) to the anterior group. SLN localization and biopsy are now the "standard of care" for staging the axillary lymph nodes in breast cancer patients and these procedures have replaced routine staging axillary lymph node dissection

SELECTIVE REFERENCES

[1] Suami H, Pan WR, Mann GB, Taylor GI. The lymphatic anatomy of the breast and its implications for sentinel lymph node biopsy: a human cadaver study. *Ann Surg Oncol.* 2008; 15:863–71.

[2] Giammarile F, Alazraki N, Aarsvold JN, Audisio RA, Glass E, Grant SF, et al. The EANM and SNMMI practice guideline for lymphoscintigraphy and sentinel node localization in breast cancer. *Eur J Nucl Med Mol Imaging.* 2013; 40:1932–47.

[3] Giammarile F, Schilling C, Gnanasegaran G, Bal C, Oyen WJG, et al. The EANM practical guidelines for sentinel lymph node localisation in oral cavity squamous cell carcinoma. *Eur J Nucl Med Mol Imaging.* 2019; 46:623–37.

Corresponding author

MD. PhD, Assistant Professor
Agneta-Maria Pusztai

E-mail address: pusztai.agneta@umft.ro

ABSTRACT

LYMPHEDEMA. ANATOMICAL AND SCINTIGRAPHIC STUDY

Agneta-Maria Pusztai¹, Ecaterina Dăescu¹, Luminioara-Maria Roșu¹,
Monica-Adriana Vaida¹, Anca-Laura Maghiari¹, Petru Matusz¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

lymphatic channels, lymphedema, lymphatic etiology, lymphoscintigraphy.

INTRODUCTION

In the extremities, the lymphatic system consists of: (i) the superficial system that drains lymph from the skin and subcutaneous tissue; (ii) deeper system that collects subfascial structures such as muscle, bone and deep blood vessels. The deep and superficial systems drain at different rates, subfascial transport is slower and drains less lymph than the epifascial system.

THE OBJECTIVE OF THE STUDY

The objective of the study was the scintigraphic identification of lymphatic channels and their obstructions in limbs, to demonstrate the lymphatic etiology of edema.

MATERIAL AND METHODS

The study material consisted of 16 patients with a diagnosis of lower limb edema (11 cases) and superior limb (5 cases), patients investigated successively between July 2018 and July 2019. Subcutaneous injections of 15-37 MBq / 0.5 ml ^{99m}Tc-Nanocoll solution /limb was performed in the interdigital spaces, followed by static and dynamic imaging. Quantitative analysis. The Transport Index (TI) was calculated to demonstrate the lymphatic etiology of edema using the formula Campisi: $TI = K + D + (0.04 \times T) + N + V$ (K = Kinetic Transport; D = RF distribution; T = time of appearance of LN, N = Visualization of LN, V = Visualization of lymphatic channels). Pathological TI > 10.

RESULTS

Lymphedema is a chronic and debilitating condition and early diagnosis provides therapeutic alternatives and prevents secondary complications, including deformations of extremities and recurrent infections. In the case of the homolateral superior limb (5 cases): (i) in two cases, the lymphatic obstruction was highlighted at the cubital level, without visualization of the brachial lymphatic flow; (ii) in 3 cases, the absence of drainage at the antebrachial and brachial level was found (TI > 10). In the case of the lower affected homolateral limb

(10 cases), TI > 10 in 8 cases: (i) in 6 cases, the lymphatic obstruction was highlighted at the crural level, without visualization of the drainage at the level of the femoral region: in 4 cases, has been viewed the medial, posterior and lateral lymphatic vessels; in 2 cases, the drainage path has been viewed only in the lower half of the medial lymphatic channels (on the great saphenous vein tract); (ii) in 2 cases, the absence of lymphatic drainage at the crural and femoral level was found, the drainage of the contralateral limb being normal. The exclusion of the lymphatic etiology of edema (TI < 10) was performed in: (i) in 2 cases of edema of the lower limb affected homolateral; (ii) in 1 case of edema of the lower limb bilateral affected.

CONCLUSIONS

The total absence of lymphatic drainage in one limb was highlighted in 5 cases (31.25%): 3 cases (60%) of upper limb edema and 2 cases (40%) of lower limb edema. The diagnosis of lymphedema has not been confirmed in the lower limb (3 cases / 18.75%), the microsurgical treatment being contraindicated.

SELECTIVE REFERENCES

- [1] Cavadas PC, Thione A, Carballeira A, Dominguez PC. Lymphedema after upper limb transplantation: scintigraphic study in 3 patients. *Ann Plast Surg.* 2013; 71(1):114-7.
- [2] Buck DW 2nd. Obesity-Induced Lymphedema: Clinical and Lymphoscintigraphic Features. *Plast Reconstr Surg.* 2016;137(3):646e-7e.
- [3] Keo HH, Gretener SB, Staub D. Clinical and diagnostic aspects of lymphedema. *Vasa.* 2017;46(4):255-61.

Corresponding author

MD.PhD, Assistant Professor
Agneta-Maria Pusztai
E-mail adress: pusztai.agneta@umft.ro
agipusztai@yahoo.com

ABSTRACT

TWO LEFT VENAE SAPHENAE MAGNAE, PRESENTING DIFFERENT ORIGINS AND DRAINING POINTS. CASE REPORT

Luminioara-Maria Roșu¹, Elena Pop¹, Ecaterina Dăescu¹, Alina-Maria Șișu¹,
Laura Bolintineanu^{1,2}, Sorin Lucian Bolintineanu¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Clinic of Ophthalmology, City Hospital Timișoara,
Scuar Martir Radian Belici, No.4, 300011, Timișoara, România.

KEYWORDS:

vena saphena magna, femoral triangle, tibia.

INTRODUCTION

Vena saphena magna has origin around the level of medial malleolus, exiting from the medial part of the dorsal venous arch of the foot. It has an ascending trajectory on the leg, passing posterior to the medial condyle of tibia. Reaching the Scarpa's femoral triangle, it travels saphenous hiatus, draining into the femoral vein. In the anatomic literature have been reported some cases of duplicated vena saphena magna. Actually, there is one vena saphena magna which doubles, (bifurcates at some level, the two branches having an ascending parallel trajectory, that eventually reunite). In this case there is one origin and one draining point into the femoral vein.

THE OBJECTIVES OF THE STUDY

During macroscopic dissection for teaching purposes, we have met in our Laboratory a case of two venae saphenae magne on a side, having different origins and draining points. We have assessed the body, especially its venous system.

MATERIAL AND METHOD

In the Anatomy Laboratory of VBUMFT we have dissected a 67- male formolized cadaver. On his left leg have ascended two venae saphenae magna.

RESULTS

During legs dissection we have noticed that the two veins have had different origins, and also different draining points into the femoral vein. Both have received at this point tributaries which have formed two venous stars of Paturet. Along their route, both veins have presented communicating branches. On the right side, the body has presented a duplicated vena saphena magna, with a common origin and common draining point.

CONCLUSIONS

We consider this case report of high clinical importance, due to the varicose disease that can develop in such veins of similar calibres. Recur-

rence frequency is significant in the duplicated veins.

SELECTIVE REFERENCES

- [1] Padavinangadi A, Kumar Ravindra NS, Swamy Nayak B, Satheesha KG, Mohandas R. Unilateral Double Great Saphenous Vein: A Clinically Significant Case Report. *J Cardiovasc Echogr.* 2015; 25(4): 116–8.
- [2] Kockaert M, de Roos KP, van Dijk L, Nijsten T, Neumann M., Duplication of the great saphenous vein: a definition problem and implications for therapy. *Dermatol Surg.* 2012; 38(1):77-82.
- [3] Naveen K, Ashwini PA, Ravindra S, Satheesha BN, Mohandas KG Rao, Abhinitha P. Bifurcated great saphenous vein: A report on its therapeutic and diagnostic perspectives, *Journal .of Cardio Echo.* 2017; 27(3):107-9.

Corresponding author

MD.PhD, Assistant Professor

Luminioara-Maria Roșu

E-mail adress: luminioararosu@yahoo.com

COMPLICATED ARTERIOVENOUS FISTULA - IMPLICATIONS OF SUPERFICIAL VENOUS SYSTEM VARIABILITY IN THE PATHOLOGY OF ARTERIOVENOUS FISTULA. CLINICAL CASE

Luminioara Maria Roșu¹, Pusztai Agneta Maria¹, Ecaterina Dăescu¹, Elena Pop¹, Andrada Iasmina Roșu³, Dan Cristian Roșu²

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Surgery II, Discipline of Surgery I, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

³ATI Clinic, „Pius Brânzeu” Emergency County Clinical Hospital Timișoara, Liviu Rebreanu Blv. No. 156, 300723, Timișoara, România.

KEYWORDS:

arteriovenous fistula, palmar collateral, palmar edema.

INTRODUCTION

Subcutaneous arterial-venous fistula was introduced in 1966 by Cimino, Brescia and Hurwich. It is the main way of ensuring vascular access for chronic hemodialysis, because it allows repeated puncture of a subcutaneous vein with high blood pressure at high pressure. Complications of FAV are also represented by aneurysmal dilations and venous loading syndrome of the hand, through palmar collaterals that take over an important part of the arteriovenous shunt.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate, find and show how to resolve complications of arteriovenous fistula, such as edema, venous loading syndrome of the hand, and aneurysmal dilatation.

MATERIAL AND METHODS

The authors report a 40-year-old male, undergoing a 3-year hemodialysis program, has an arteriovenous fistula of about 3 years, of radiocephalic type, on the left forearm, with aneurysmal dilatations on the path of the fistula and a syndrome of injection in the left hand.

RESULTS

The performed fistulography reveals a collateral circulation of the main path of the fistula, at the level of the hand. The surgery is decided, which consists of the closure of the fistula, due to the aneurysmal dilatations and the marked, extremely painful edema of the hand, after a previous surgery to perform a new arteriovenous fistula on the right forearm, of radiocephalic type. Postoperatively, at 10-day intervals, the edema was completely resolved, the algal symptomatology completely disappearing.

CONCLUSIONS

A simple surgical solution as an indication, but technically difficult, due to the adhesions created, the excessive vascularization of the region and the dilatation of all vessels located at this level, resulted in the complete disappearance of the symptoms, ensuring a comfort of life and achievement of weekly dialysis sessions.

SELECTIVE REFERENCES

- [1] Berardinelli L. Arteriovenous fistulas: different types and surgical techniques. *Contrib Nephrol.* 2004; 142:47-72.
- [2] Lazarides MK, Stamos DN, Kopadis G, Maltezos C, Tzilalis VD, Georgiadis GS. Onset of arterial steal following proximal angioaccess: immediate and delayed types. *Nephrol. Dial. Transplant.* 2003; 18:2387-90.
- [3] Tordoir JH, Dammers R, van der Sande FM. Upper extremity ischaemia and hemodialysis vascular access. *Eur J Vasc Endovasc Surg.* 2009; 27:1-5.

Corresponding author

MD.PhD, Assistant Professor

Luminioara-Maria Roșu

E-mail adress: luminioararosu@yahoo.com

ABSTRACT

THE FACIAL NERVE AND THE INTRAPAROTID FACIAL NERVE

Elena Samfirescu¹, Iulia-Camelia Ciobanu¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

facial nerve, parotid plexus, parotid gland, facial branches.

INTRODUCTION

It is known that the facial nerve is a mixed nerve, with a motor root and a sensory root (the intermediate nerve). At the level of the parotid gland, the facial nerve is situated lateral to the external carotid artery and the external jugular vein, and its terminal branches form the parotid plexus. From this parotid plexus split branches innervating the surrounding regions.

THE OBJECTIVE OF THE STUDY

The objective of this study is to highlight the branches of the facial parotid plexus and the relations with the neighborhood areas.

MATERIAL AND METHOD

The study was performed in the Laboratory of the Discipline of Anatomy and Embryology of the University of Medicine and Pharmacy „Victor Babeș” Timișoara, using 12 preserved pieces of dissection, during a period of 4 years. From these preserved pieces of dissection we choose a representative one, in a way that all the studied elements were seen in detailed manner. For that purpose, some well defined and precise incisions were done, followed by a carefully rise of the superficial skin layer without damaging the surrounding areas. After that, the pinna was cut and rised posteriorly, and the parotid gland was also rised up together with the Stenson's duct, in such a way that allows us to highlight multiple branches, that form the parotid plexus.

RESULTS

We discovered inside the parotid parenchyma, multiple parotid branches of different sizes and very fragile, that forms the parotid plexus. The study was conducted with patience and skill. We put into evidence, from the parotid gland toward medial, the transverse facial branch and toward supero-medial the zygomatico-facial branch. The inferior branch, with the cervico-facial trajectory, presents many branches, easy to be seen after leaving the parotid gland, while the temporo-facial branch goes superiorly, and it is considered one of the most difficult

to highlight, from all the branches of the facial nerve.

CONCLUSIONS

The knowledge of these details are necessary both in clinic and in surgical practice for a proper therapeutically behavior and for the ability of choosing the right decision in approaching this type of pathology.

SELECTIVE REFERENCES

- [1] Martínez Pascual P, Maranillo E, Vázquez T, Simon de Blas C, Lasso JM, Sañudo JR. Extracranial Course of the Facial Nerve Revisited. *Anat Rec (Hoboken)*. 2019; 302(4):599-608.
- [2] Frautschi R, Rampazzo A, Bernard S, Djohan R, Papay F, Gharb BB. Management of the Salivary Glands and Facial Nerve in Face Transplantation. *Plast Reconstr Surg*. 2016; 137(6):1887-97.
- [3] Sargon MF, Ogretmenoglu O, Gunenc Beser C, Karaoglan Y, Ercakmak B, Hayran HM, Hayran M, Kasirga UB. Quantitative analysis of the terminal branches of facial nerve in fresh frozen head and neck specimens. *Folia Morphol (Warsz)*. 2014; 73(1):24-9.

Corresponding author

MD.PhD, Assistant Professor

Elena Samfirescu

E-mail adress: samfirescu.elena@umft.ro

THE OSTEOCYTE

Simona Sârb¹

¹Department of Microscopic Morphology/ Histology, Angiogenesis Research Center,
"Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

stem cell bone, osteocyte.

INTRODUCTION

Even if most of the human body cells have been described decades ago, the quick development of new and, more sophisticated methods of investigation, demonstrated that some of these cells still have some secrets that are waiting to be revealed.

THE OBJECTIVE OF THE STUDY

The aim of this review is to bring up-to-date the knowledge concerning the most numerous of the bone cells, the osteocyte.

THE OSTEOCYTE

Synonyms: mature bone cell.

Origin: in MSC, via osteoblasts differentiation. The osteocyte is a long lived cell, and it does not proliferate. It has a life span of a few decades, with a half-life of around 25 years.

Location: The mature osteocyte is completely entrapped inside the mineralized bone matrix. The cell body is located inside bone lacunae, and its cytoplasmic processes, inside small bone canaliculi that interconnect the lacunae (lacunar-canalicular system).

Microscopic morphology: The osteocyte is a star shaped dendritic cell. Each osteocyte has up to 50 cytoplasmic processes enclosed in bone canaliculi. The nuclear-cytoplasmic ratio is in favor for the cytoplasm.

Ultrastructure: Besides a few perinuclear profiles of rough endoplasmic reticulum and Golgi complex, the EM revealed the presence of gap junctions at the tip of osteocyte processes, and hemichannels along them. The gap junctions interconnect osteocytes, osteocytes with osteoblasts or bone lining cells, and the hemichannels provide communication between osteocyte and the fluid in the bone canaliculi.

Imunohistochemistry: The osteocyte markers are E11/gp38, sclerostin, FGF23.

Functions: Osteocytes have a role in phosphate and calcium metabolism, act as mechanoreceptors, and are involved in bone remodeling themselves, and by regulating osteoblast and osteoclast activity. They

also act as endocrine cells: they synthesize soluble factors that target kidney, cardiac or skeletal muscle.

Implications in pathology: Aging, and inflammatory factors such as tumor necrosis factor and glucocorticoids induce osteocyte cell death that lead to osteoporosis. Moreover, osteocytes are involved in bone cancer development and progression.

SELECTIVE REFERENCES

[1] Dallas SL, Prideaux M, Bonewald LF. The Osteocyte: An Endocrine Cell. And More. *Endocr.Rev.* 2013; 34(5): 658-90.

[2] Delgado-Calle J, Bellido T. Osteocytes and Skeletal Pathophysiology. *Curr Mol Biol Rep.* 2015; 1:157-67.

[3] Florencio-Silva R, Rodrigues da Silva Sasso G, Sasso-Cerri E, et al. Biology of Bone Tissue: Structure, Function, and Factors That Influence Bone Cells. *Biomed Research International*, 2015; ID421746, 17 pages.

Corresponding author

MD.PhD, Associate Professor Simona Sârb
E-mail address: simona_sarb@yahoo.com

ABSTRACT

DEXTROCARDIA. CLINICAL CASES

**Alina-Maria Şişu¹, Codruţa-Ileana Petrescu¹, Elena Pop¹,
Alexandra-Corina Faur¹, Agneta-Maria Pusztai¹, Adrian Lăzărescu¹,
Sorin Lucian Bolintineanu¹**

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timişoara, Eftimie Murgu Square, No.2, 300041, Timişoara, România.

KEYWORDS:

dextrocardia, situs inversus, mediastinum, heart.

INTRODUCTION

Dextrocardia is a rare congenital condition in which the apex of the heart is located on the right side. There are two types of dextrocardia: dextrocardia of embryonic arrest, and dextrocardia accompanied by situs inversus.

THE OBJECTIVE OF THE STUDY

To investigate two cases of 20-year and 48-year respectively females patient, which present dextrocardia with situs inversus in the simplest form.

MATERIAL AND METHOD

Analysis of clinical, radiological and laboratory aspects of two cases presenting with dextrocardia.

RESULTS

The younger patient presents no signs and symptoms in order to put problems of physical appearance. On the chest examination the inspection and palpation on the thoracic wall the bony landmarks and the muscular ones were perfectly normal. There was no deformity or other concerning additionally signs. The 48-year female patient was known like suffering from diabetes, Basedow disease and high blood pressure. Her karyotype was normal, like the one of the younger patient. Both radiographs have shown no important limits deviations from the viscera normal borders.

DISCUSSION

Dextrocardia is a congenital disease associated with multiple congenital cardiac abnormalities. Dextrocardia with situs inversus was the most common (39.2%) in a retrospective study made on 125 patients. The ratio males/females was 1.9. Usually at 48 years old the complications are expected to be significant, but in our case the patient have not shown yet any heart problems. Indeed, the persistent fatigue, the pale skin and lack of haemoglobin (9.3-10.1%) have been present but searching better it was found that the patient has been suffering by Basedow disease for 25 years and from a 5 cm complicated uterine fibroma that was bleeding

for 5 years. Coronary artery disease in patients with dextrocardia is not more frequent than in general population. Radiological study highlighted in both patients did not show any changed in the hearts or lungs normal limits, as have been cited in other literature cases.

CONCLUSIONS

Dextrocardia with situs inversus is responsible for 1 to 10,000 cases in clinic. Male/female ratio is approximately 2, so is a significant difference in male gender. When a patient is suffering from diabetes and wants to have children is better to be informed over the risks that could lead to congenital problems in the child. Patients known with dextrocardia must be monitored in order to prevent some aspects that could appear during life.

SELECTIVE REFERENCES

- [1] Sukru A, Nese C, Gurkan U, Altay S, Bozbay M, Agirbasli M. Primary percutaneous intervention for acute myocardial infarction in a patient with dextrocardia and Situs Inversus. *Tex Heart Inst J.* 2012; 39(1): 140-1.
- [2] Furtado AD, Chikkatur R, Peer SM, Bhat S. A technique for repair of atrioventricular canal defect in dextrocardia. *Int J Cardiol.* 2003; 88(2-3): 143-55.
- [3] Garg N, Agarwal BL, Modi N, Radhakrishnan S, Sinha N. Dextrocardia: an analysis of cardiac structures in 125 patients. *Herz.* 2010; 35(3):207-10.

Corresponding author

MD.PhD, Associate Professor

Alina-Maria Şişu

E-mail address: alinasisu@umft.ro

alinasisu@gmail.com

ABSTRACT

LIGAMENT OF STRUTHERS

**Alina-Maria Şişu¹, Codruţa-Ileana Petrescu¹, Loredana-Gabriela Stana¹,
Laura Bolintineanu^{1,2}, Carmen-Camelia Haivas¹, Sorin-Lucian Bolintineanu¹
Tăpălagă Geanina³**

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Clinic of Ophthalmology, City Hospital Timișoara,

Square Martir Radian Belici, No.4, 300011, Timișoara, România.

³Discipline of Odontotherapy and Endodontics, Faculty of Dentistry,
, "Victor Babeş" University of Medicine and Pharmacy Timișoara,

KEYWORDS:

median nerve, dissection, forearm.

INTRODUCTION

Median nerve outgoes from the brachial plexus as one of its terminal branches, being formed by two roots, one coming from the lateral cord, one from the medial cord of this plexus. In anatomy literature median nerve is described as a long nerve, which can be clinically entrapped in muscles or ligaments, causing pain.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the median nerve course from the brachial plexus in the axilla to the wrist, mainly in the cubital fossa, site where median nerve can be wrapped in other surrounding structures.

MATERIAL AND METHODS

The median nerve can be entrapped at many sites: distal humerus by the ligament of Struthers, proximal elbow by the aponeurosis of the biceps brachii, elbow joint, and proximal forearm. The ligament of Struthers is a fibrous vestigial remnant, (2.2-3.3% of the population), that extends from the anteromedial aspect of the distal humerus to the medial epicondyle. It is a cause of median nerve compression, but only in up to 0.5% of cases. The ligament takes origin from a supracondylar spur of the humerus, if the spur is present.

RESULTS

We have found in 3 cases of macroscopic dissection the median nerve entrapped to 9.3 - 13.6 cm distance to the anterior medial surface of the arm, but we did not find any supracondylar spur of the humerus to confirm the ligament of Struthers in any of the cases. These dissection cases could be normal anatomic variations because we also find the ulnar nerve and the brachial artery entrapped in the same cadavers where the median nerve was entrapped.

CONCLUSIONS

As conclusion, the clinical condition due to the median nerve entrapment could cause paresthesia and palsy, but these must be proved using ultrasound and other tests.

SELECTIVE REFERENCES

[1] Orfali KA, Ohene-Abuakwa Y, Ball SE: Diamond Blackfan anemia in the UK: clinical and genetic heterogeneity. *Br J Haematol.* 2004; 125:243-52.

[2] Iriando A, Garijo J, Baro J, Conde E, Pastor JM, Sabanés A, Hermosa V, Sainz MC, Pérez de la Lastra L, Zubizarreta A. Complete recovery of hemopoiesis following bone marrow transplant in a patient with unresponsive congenital hypoplastic anemia (Blackfan-Diamond syndrome). *Blood.* 1984; 64:348-51.

[3] Den Dunnen JT, Grootsholten PM, Bakker E, Blonden LA, Ginjaar HB, Wapenaar MC, et al. Topography of the Duchenne muscular dystrophy (DMD) gene: FIGE and cDNA analysis of 194 cases reveals 115 deletions and 13 duplications. *Am J Hum Genet.* 1989; 45:835-47.

Corresponding author

MD.PhD, Associate Professor

Alina-Maria Şişu

E-mail address: alinasisu@umft.ro

alinasisu@gmail.com

A STUDY ON THE MORPHOLOGY OF THE SUPRASCAPULAR NOTCH AND THE SUPERIOR BORDER OF THE SCAPULA

**Loredana-Gabriela Stana¹, Adelina-Maria Jianu¹, Adrian Cosmin Ilie¹,
Laura-Octavia Grigoriță¹, Monica-Adriana Vaida¹, Corina-Georgina Matu¹,
Marius Corneliu Niculescu¹, Andrei Gheorghe Marius Motoc¹**

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

suprascapular notch, anatomical variations, superior border of the scapula, classification, clinical significance.

INTRODUCTION

The suprascapular notch (SSN) is located on the superior border (SB) of the scapula. Above the SSN is found superior transverse scapular ligament. The suprascapular nerve passes through the suprascapular notch and its branches innervates the region, muscles and the structures of the acromio-clavicular and shoulder joint.

THE OBJECTIVE OF THE STUDY

The objective of the study was to perform a morphological study of the SSN and the SB of the scapula variations. The knowledge of SSN variations may be predictive value for the management of entrapment neuropathy of the suprascapular nerve.

MATERIAL AND METHODS

In this study, we analyzed thoroughly and systematically 35 human dry scapulae of unknown sex, 20 right sided and 15 left sided, in the Department of Anatomy and Embryology, Victor Babeș University of Medicine and Pharmacy Timișoara, Romania. Human dry scapulae were observed by visual inspection, and the classification of morphological variations of the SSN and the SB of the scapula resulted from geometric measurements. The geometrical measurements were made using an Electronic digital caliper 0.01 mm/0.0005", and the results were recorded and analyzed statistically.

RESULTS

Human dry scapulae were measured and based on the shape of the inferior border of the incisura, and three geometrical measurements, maximal depth (MD), superior (STD) and middle (MTD) transverse diameters, was found seven types of SSN. The most common was "U" type, followed by absence of SSN. Based on distances between SSN and superior angle,

and between superior angle and anterior margin of the scapular spine, was found four types of the shape of SB of the scapula and max length of SB was 69.21 mm.

CONCLUSIONS

Knowledge describes in this study will help clinicians in diagnostic and procedures of the suprascapular region and also may increase the success rate of operative decompression of the suprascapular nerve.

SELECTIVE REFERENCES

- [1] Polgaj M, Majos A, Waszczykowski M, Fabiś J, Stefańczyk L, Podgórski M, Topol M. A computed tomography study on the correlation between the morphometry of the suprascapular notch and anthropometric measurements of the scapula. *Folia Morphol (Warsz)*. 2016; 75(1):87-92.
- [2] Tasaki A, Nimura A, Mochizuki T, Yamaguchi K, Kato R, Sugaya H, Akita K. Anatomic observation of the running space of the suprascapular nerve at the suprascapular notch in the same direction as the nerve. *Knee Surg Sports Traumatol Arthrosc*. 2015; 23(9):2667-73.
- [3] Kannan U, Kannan NS, Anbalagan J, Rao S. Morphometric study of suprascapular notch in Indian dry scapulae with specific reference to the incidence of completely ossified superior transverse scapular ligament. *J Clin Diagn Res*. 2014; 8(3):7-10.

Corresponding author

MD.PhD, Assistant Professor
Loredana-Gabriela Stana

ABSTRACT

MORPHOLOGICAL VARIABILITY OF THE HEPATIC ARTERY PROPER MEDIAL BRANCH. STUDY ON CORROSION CASTS

George Silviu Stancu¹, Lavinia Crăciun¹, Raul Lupulescu²,
Victor Bogdan Buciu³, Agneta-Maria Pusztai¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

hepatic artery proper, medial branches, variability, corrosion casts.

INTRODUCTION

In accordance with the Anatomical Terminology [1989], the left branch of the hepatic artery proper, divides into the lateral branch and the medial branch. The medial branch is intended for the left medial division of the hepatic parenchyma.

THE OBJECTIVE OF THE STUDY

The objective of this study is to highlight on a lot on hepatic corrosion casts, the origin of the medial branch of the hepatic artery proper.

MATERIAL AND METHODS

In the present study, one used 50 human intrahepatic system corrosion casts achieved in the Department of Anatomy of the "Victor Babeș" University of Medicine and Pharmacy, Timișoara. Injection of the liver vascular system was performed with metacrilat of methyl paste (Ago II). For corrosion of the liver parenchyma, technical hydrochloric acid was used. The studied liver corrosion casts were photographed and classified.

RESULTS

Three morphological types of origin of the medial branch of the hepatic artery proper were highlighted on the studied material: Type I (modal) present in 88% of cases, in which the medial branch originates from the left branch of the hepatic artery proper together with the lateral branch; Type II present in 8%% of cases, where the trunk of the hepatic artery proper trifurcates into the right branch, medial branch and lateral branch; in this situation, the left branch of the hepatic artery proper is absent as a morphological entity; Type III, present in 4% of cases, in which the medial branch originates in the initial portion of the right branch; in this situation, the left branch of the hepatic artery proper is continued only with the lateral branch.

CONCLUSIONS

The anatomical variations of origin of the medial branch of the hepatic artery proper are associated with the absence of the left branch of the hepatic artery proper as a morphological entity. The knowledge of these variations must be taken into account when planning and performing resection and liver transplant surgery.

SELECTIVE REFERENCES

- [1] Caruso F, Alessandri G, Ciccarese F, Cesana G, Uccelli M, Castello G, et al. Common hepatic artery quadrifurcation associated with right hepatic artery from superior mesenteric artery during laparoscopic total splenopancreatectomy. *Ann Ital Chir.* 2017; 88:365-7.
- [2] Alghamdi T, Viebahn C, Justinger C, Lorf T. Arterial Blood Supply of Liver Segment IV and Its Possible Surgical Consequences. *Am J Transplant.* 2017; 17(4):1064-70.
- [3] Onishi H, Kawarada Y, Das BC, Nakano K, Gadzijev EM, Ravnik D, et al. Surgical anatomy of the medial segment (S4) of the liver with special reference to bile ducts and vessels. *Hepatogastroenterology.* 2000; 47(31):143-50.

Corresponding author

MD.PhD, Assistant Professor
George Silviu Stancu
E-mail adress: dr.stancu@yahoo.com

ABSTRACT

PREVALENCE AND TYPOLOGY OF KIDNEY AND URINARY TRACT MALFORMATIONS. DISSECTION BASED STUDY.

Lucia Stoican¹, Delia-Elena Zăhoi¹, Dorina Sztika¹, Agneta Maria Pusztai¹, Ecaterina Dăescu¹

¹Department of Anatomy and Embryology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

kidneys, kidney and urinary tract malformations, dissection.

INTRODUCTION

Renal and urinary tract malformations can manifest in a broad variety of ways. These may affect the kidneys themselves, components of the urinary tract or a combination of both, and can also be uni- or bilateral. Based on their severity, they may remain asymptomatic or can have significant impact on renal function and lead to a number of chronic conditions.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate morphological types of kidney and urinary tract malformations and their prevalence.

MATERIAL AND METHODS

In order to study the kidney and urinary tract malformations, we used a set of 60 kidneys from adult human cadavers, dissected within the Department of Anatomy and Embryology of our University. All dissection pieces were from individuals with no known kidney conditions.

RESULTS

The kidneys and urinary tracts are subject to the most frequent and diverse malformations in the human body, due to their complicated evolutionary process during intrauterine life. Most of the times, these malformations are detected by accident, as they evolve asymptotically or with unspecific symptoms. On our study material, we identified the following kidney and urinary tract anomalies: anomalies of number - 1 case of supernumerary kidney; anomalies of volume - 2 cases; anomalies of shape - 2 cases; anomalies of rotation - 2 cases; anomalies of position - 2 cases; anomalies of de vascularisation – 12 cases.

CONCLUSIONS

Renal and urinary tract malformations are frequent conditions, with a prevalence of 5 to 40%. The most frequent malformations in the study were vascular, especially arterial (20%). Renal and urinary tract malformations can lead to conditions such as lithi-

asis or renovascular hypertension. Early tracing and diagnosis are beneficial in establishing a course of treatment and the condition's and long term evolution.

SELECTIVE REFERENCES

- [1] Rodriguez M M. Congenital Anomalies of the Kidney and the Urinary Tract. *Fetal Pediatr Pathol.* 2014, 33(5-6):293–320.
- [2] Comanescu AC, Tanase F, Comanescu MC, Pana RC, Barbu M, Cernea M. Renal Anomalies. In: Tudorache S (ed). *Congenital Anomalies. From the Embryo to the Neonate.* London: IntechOpen; 2017. 271-285.
- [3] Ramanathan S, Kumar D, Khanna M, Heidous M, Sheikh A, Virmani V, et al. Multi-modality imaging review of congenital abnormalities of kidney and upper urinary tract. *World J Radiol.* 2016, 8(2):132–41.

Corresponding author

MD.PhD, Assistant Professor Lucia Stoican
E-mail adress: stoican_lucia99@yahoo.com

ABSTRACT

CADAVERIC STUDY OF DIAGONAL BRACHES THAT ARISE FROM THE LEFT ANTERIOR DESCENDING ARTERY

Flavius-Robert Stoica¹, Zorana-Alexandra Stepanov¹, Laura-Octavia Grigoriță²,
Monica-Adriana Vaida², Ergi Zhobro¹

¹Medical Student, Faculty of Medicine, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
²Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

anatomy, variation, left anterior descending artery, diagonal branches.

INTRODUCTION

The anterior interventricular branch of the left coronary artery (Left descending artery) continues around the left side of the pulmonary trunk and descends obliquely toward the apex of the heart in the anterior interventricular sulcus. During its course, one or two large diagonal branches may arise and descend diagonally across the anterior surface of the left ventricle.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the anatomical variation of the diagonal branches that arise from the left anterior descending artery.

MATERIAL AND METHODS

The study was performed on 15 hearts of formaline-fixed cadavers, in the Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy, Timisoara. Each heart was observed for the number of diagonal branches that arise from the left anterior descending artery.

RESULTS

In the present study, out of 15 hearts, we were able to find 9 hearts that have 1 diagonal branch arising from the left descending artery, 3 hearts that have 2 diagonal branches arising from the left descending artery and 3 hearts that have 3 diagonal branches arising from the left descending artery.

CONCLUSIONS

Knowing that the normal number of diagonal branches arising from the left descending artery is between 1 and 2, and in our study there were 3 hearts that had an abnormal number of diagonal branches (3) we could say that, in this study, 20 percent (%) of the hearts that were taken into consideration for the study had an abnormal number of diagonal branches arising from the left descending artery.

SELECTIVE REFERENCES

- [1] Kumar A, Ajmani ML, Klinkhachorn PS. Morphological variation and dimensions of left coronary artery: a cadaveric study. *MOJ Anat & Physiol*. 2018; 5(4):266-70.
- [2] Reddy MV, Pusala B. Anatomical variations in branching pattern and dimensions of coronary arteries: a cadaveric study from south India. *J of Dent and Med Sci*. 2016; 15(8):21-8.
- [3] Agnihotri G, Kaur M, Kalyan GS. Branching patterns of left coronary artery among north Indians. *Anat J of Africa*. 2013; 2(2):145-50.

Corresponding author

MD.PhD, Senior Lecturer
Laura-Octavia Grigorița
E-mail adress: grigorița.laura@umf

ABSTRACT

CADAVERIC STUDY OF LEFT CORONARY ARTERY OF THE HEART

Diana Flavia Ștefan¹, Andra Șerb¹, Luminioara-Maria Roșu²

¹Medical Student, Faculty of Medicine, "Victor Babeș" University of Medicine and Pharmacy Timișoara,

²Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

ascending aorta, coronary artery, variation, branches.

INTRODUCTION

From the initial section of the ascending aorta, the two coronary arteries rise to the vascularization of the heart. The left coronary artery arises from the high portion of the left Valsalva sinus and vascularizes most of the left heart wall, most of the interventricular septum and a very small part of the right ventricular wall.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the anatomical variation of the left coronary artery.

MATERIAL AND METHODS

The study was performed on 13 hearts of formalin-fixed cadavers, in the Department of Anatomy and Embryology "Victor Babeș" University of Medicine and Pharmacy, Timisoara. Each left coronary artery was observed for its origin and its branches. The results were compared to those reported in the literature.

RESULTS

In the current study, out of 13 cases considered 2 were found to have had anomalies as regards to their coronary arteries. Thus, in one of the cases, the coronary artery actually has been seen to divide itself into three arteries as it follows: left anterior descending, left circumflex and intermediate. The second case concerns the length of the coronary artery having an unusually large common trunk that has been observed to be estimated around 17mm in length. In other studies, the normal diameter of coronary artery has been established with catheter angiography. In 36 per cent the left main coronary artery was 6 mm or less. Only 5 per cent had left main coronary arteries greater than 20 mm, the longest being 32 mm. The mean length in this series is 9-5 mm.

CONCLUSION

Knowledge of unusual variation of the left coronary artery is important in the following cases: pre-operative coronary perfusion or coronary angiography.

SELECTIVE REFERENCES

- [1] Testut L, Latarjet A. [Editors]. Compendio de Anatomia Descriptiva. 22nd ed. Barcelona: Salvat Editores; 1983. p. 252-3.
- [2] Charles Fox, M. J. Davies, M. M. Webb-Peploe. Length of left main coronary artery. Br Heart J. 1973; 35: 796-8.
- [3] Chiu-Lung Wu, Chi-Wen Juan. Coronary Angiography (online). 2013 (cited 2019 November 16th); (about 3 screens). <https://www.intechopen.com/books/what-should-we-know-about-prevented-diagnostic-and-interventional-therapy-in-coronary-artery-disease/coronary-angiography-ijecece>

Corresponding author

Stud. Diana Flavia Ștefan

E-mail adress: sdianafla@gmail.com

ABSTRACT

PRIORITY IN CLASSIFICATION OF CERVICAL FASCIAE

Serghei Suman¹, Ala Suman², Lidia Suman³

¹Department of Topographic Anatomy and Operative Surgery,

„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova

²Department Surgery № 1 “Nicolae Anestiadi”

„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,

³Student. Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova.
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

KEYWORDS: neck, cervical fascia classification.

INTRODUCTION

Study of cervical fasciae represents major difficulties, because the authors did not synchronize over the time a common opinion about the fascia and terminology's classification. In the manuals of anatomy in English, French and Russian the same formations are specified differently. Thus, the prevertebral fascia is determined by the French anatomists as being aponeurosis. English anatomists name it – “alar fascia” and the Russian literature, which is based on the classification given in the manual of V. N. Shevkunenko, considers that it is correct to name it fascia prevertebralis, which participates in the formation of the respective muscle sheaths. Taking this fact into account the neck fascia needs to be regarded through the practical approach related to the clarification of the ways of purulent propagations and elaboration of surgical approach methods. It is well known that it is difficult to establish and systemize the number of fasciae on the neck, the fact which is determined by the age, physical development, gender, method of investigation etc.

THE OBJECTIVE OF THE STUDY

Thus, the goal of this work is the elucidation of author's priorities in the study, description and classification of cervical fasciae.

DISCUSSIONS

The main cause of the divergences and contradictions in the description of the neck fasciae is determined by the lack of common concepts, generally accepted, about the structure of fascia and other connective-fibrous formations. That is why practically each connective-fibrous structure in the working field can be named (and it is frequently named) fascia, also the passion for the “fasciology” led to the fact that the term fascia was assigned even to typical adventitia – coverings of organs and sometimes even a portion of the organ covering, for example the pharynx (fascia faringobasilaris). Thus, the additional searching for the “correct” names of neck fasciae and the copyright in their description seem to be inopportune because of the “limitation status”, including the in-

certitude of the main concepts (tissue, fascia, aponeurosis, laminae, plates, etc.). Now the term of “fascia” is unanimously accepted, notwithstanding that it has an indicative character over a concrete structure, but it corresponds sufficiently to the existent idea about fasciae as connectivefibrous coverings of different expression and character – from dense fibrous to thin, lax, cellulous tissue.

CONCLUSIONS

Now, there are a lot of vaguenesses regarding the anatomical terminology, but these historical “mistakes” do not influence significantly the practice. And the “reconciliation” of the parties can be reached by the strict observation of the unique anatomic law – Nomina Anatomica.

SELECTIVE REFERENCES

- [1] Natale G, Condino S, Stecco A, Soldani P, Belmonte MM, Gesi M. Is the cervical fascia an anatomical proteus? *Surg Radiol Anat.* 2015; 37(9):1119-27.
- [2] Samarin AP. Investigation of fasciae and connective tissue spaces of the neck] [dissertation]. Odessa: Odessa University, 1912. [in russian]
- [3] Suman S, Topor B, Suman A. Priority in classification of cervical fasciae. *The Moldovan Medical Journal.* 2017; 60(4):46-9.

Corresponding author

MD.PhD, Associate Professor Serghei Suman
E-mail address: serghei.suman@usmf.md

ABSTRACT

PRIORITY MORPHOLOGICAL VARIATION OF CELIAC TRUNK ORIGIN. DISSECTION BASED STUDY

Dorina Sztika¹, Delia-Elena Zăhoi¹, Lucia Stoican¹, Agneta Maria Pusztai¹, Ecaterina Dăescu¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

celiac trunk, hepatosplenic trunk, length, diameter, dissection.

INTRODUCTION

The celiac trunk is the first major branch of the abdominal aorta, supplying a vast area and thus having a significant role in medical and surgical pathology. Knowledge of the trunk's morphological variants is therefore highly important not only from an academic perspective, but a practical one as well.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the frequency, types and morphological features of celiac trunk branches.

MATERIAL AND METHODS

The study material consisted of 30 adult cadavers within the Department of Anatomy and Embryology and was conducted through dissection.

RESULTS

The morphological variants of the celiac trunk described in the literature are of origin, path, length, diameter and number of terminal branches. The study material was analyzed for: the level and origin methods of the celiac trunk branches, their classification into established morphological types and the length/diameter of the celiac trunk. A celiac trunk was present in all our cases, originating on the front side of the abdominal aorta. 4 cases (13.3%) showed morphological variations of origin of the celiac trunk's branches. All the cases presented an incomplete celiac trunk (hepatosplenic) - Type II according to Adachi's classification. 50% of the cases were associated to type II for the formation of the hepatic portal vein. The left gastric artery had separate origin from the abdominal portion of the aorta, superior to the origin of the hepatosplenic trunk - in 2 cases on the anterior face, in one case on the left side of the aorta and in one case from the splenic artery. The level of origin of the celiac trunk in our study was between T12 - L1, and the diameter averaged 0.78cm. For the cases presenting with hepatosplenic trunks, these were smaller in diameter (0.64 to 0.76cm, aver-

aging 0.71), and had lengths between 1.7 and 2.45cm.

CONCLUSIONS

The anatomic variants of the celiac trunk are relatively frequent. Knowledge of such variants is essential for surgical and radiologic procedures in the abdominal area due to the expansive area irrigated by its branches. Additionally, knowledge of its length and diameter ranges can be helpful in diagnose aneurysms or assessing risk levels for transplants.

SELECTIVE REFERENCES

- [1] Santos PVD, Barbosa ABM, Targino VA, Silva N, Silva YC, Barbosa F, Oliveira A, Assis T. Anatomical variations of the celiac trunk: a systematic review. *Arq Bras Cir Dig.* 2018, 31(4), e1403.
- [2] Hemamalini. Variations in the branching pattern of the celiac trunk and its clinical significance. *Anat Cell Biol.* 2018, 51(3):143-9.
- [3] Olewnik L, Wysiadeci G, Polguy M, Waśniewska A, Jankowski M, Topol M. Types of coeliac trunk branching including accessory hepatic arteries: a new point of view based on cadaveric study. *Folia Morphol.* 2017, 76(4):660-7.

Corresponding author

MD.PhD, Assistant Professor Dorina Sztika
E-mail adress: dorinasztika@yahoo.com

ABSTRACT

THE ASCENDING AORTA: A COMPARATIVE STUDY OF ANATOMICAL- CLINICAL AND ULTRASOUND INVESTIGATION DATA

Roxana Țaga^{1,2}, Paul Bîcă¹, Adrian Lăzărescu¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Institute of Cardiovascular Diseases Timișoara, Gheorghe Adam Str. No. 13A, 300310, Timișoara, România

KEYWORDS:

ascending aorta, aortic regurgitation, ultrasound.

INTRODUCTION

Ascending aorta has been a point of interest for cardiologists and cardiovascular surgeons, because of the multiple pathologies that can affect it, ranging from the most common one-uncontrolled hypertension to the most severe one-aortic aneurysm and its fatal complication. In this setting, aortic regurgitation can occur, which represents the reversed blood flow from the aorta into the left ventricle during the diastole. Thus, the ecocardiographic evaluation of the ascending aorta and assessment of the severity of the aortic regurgitation are critical points in every patient evaluation.

THE OBJECTIVE OF THE STUDY

The objective of the present study was to assess the functional anatomy of the ascending aorta, especially in the presence of aortic regurgitation.

MATERIAL AND METHODS

Two methods of evaluation were performed in this retrospective study: dissection of adults hearts performed in the Anatomy Laboratory of University of Medicine and Pharmacy Timisoara and ultrasound investigation done by transthoracic echocardiography performed at the Institute of Cardiovascular Diseases Timisoara. The anatomy study was accomplished in the Anatomy Discipline and 13 human adult hearts were included, which were previously preserved in formalin. The ascending aorta was measured macroscopically. The ultrasound images were obtained from 120 patients hospitalized in the Intensive Coronary Care Unit of Institute of Cardiovascular Diseases Timisoara during the month of August 2019. Deceased patients and patients without a complete echocardiographic protocol were excluded from the study.

RESULTS

75% of the females exhibit a normal ascending aorta diameter, whereas the dilation of ascending aorta was found only in 25% of them. Dilation of the ascending aorta is more common in males, half of them presenting with a dilated ascending aorta. 56% of the total patients had no aortic regurgitation and a severe aortic regurgitation was found only in 6 patients.

CONCLUSION

Dilation of the ascending aorta is seen in 42% of the participants of the study, showing that it is a common finding during routine echocardiography and implying the multiple etiologies of it. Even though the aortic regurgitation is a common pathology, a severe aortic regurgitation is a rare entity.

SELECTIVE REFERENCES

- [1] Zhang J, Fan G, Zhao H, Wang X, Wang Z, Zhang P, ET AL. Dilatation of the initially non-aneurysmal ascending aorta after replacement of a bicuspid versus tricuspid aortic valve. *J Int Med Res.* 2016; 44(6):1222-33.
- [2] Loukas M, Bilinsky E, Bilinsky S, Blaak C, Tubbs RS, Anderson RH. The anatomy of the aortic root. *Clin Anat.* 2014; 27(5):748-56.
- [3] Trippel A, Pallivathukal S, Pfammatter JP, Hutter D, Kadner A, Pavlovic M. Dimensions of the ascending aorta in conotruncal heart defects. *Pediatr Cardiol.* 2014; 35(5):831-7.

Corresponding author

PhD, Assistant Professor Roxana Țaga
E-mail adress: taga.roxana@umft.ro

ABSTRACT

SPINAL NERVES AND ANTEROLATERAL WALL OF ABDOMEN HERNIAS

Radu Turchin¹, Gheorghe Guzun¹, Alexandra Bajora¹

¹Department of Topographic Anatomy and Operative Surgery,
„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

KEYWORDS:

spinal nerves, innervation, anterolateral wall of abdomen, hernia, inguinal canal.

INTRODUCTION

Continuous improvement of diagnostic and treatment methods in some pathologies, both surgically and therapeutically requires a more detailed study of clinical anatomy and spinal biomechanics. Thus, perhaps even revising concepts well-rooted in the consciousness of scientists and modern practitioners. However, in order to answer questions about the causes of the installation of muscle hypotonia in the abdomen's antero-lateral region, it is necessary to examine the vascularization and innervation.

MATERIAL AND METHODS

The study was made on 10 boys (ages between 2 and 9 years). As methods: local examination and back examination.

RESULTS

As a result of the back examination, an underdevelopment of the paravertebral muscles was observed in the lower thoracic and upper lumbar segment. In other words, the paravertebral muscles at this level look as if they were interrupted, thus showing the picture of a crater or a muscle defect. That is, the muscles above and below this segment are strong, full, elevated, while in this area they seem to be lacking. The more this area is covered by a much more developed hair than the rest of the back.

CONCLUSIONS

The causes of muscle tone decrease can be both muscular in origin and generated by a pathology of the nervous system at different levels. Because the causes are multiple, the treatment is different at certain stages of hernia development. In this way, our treatment - qualitative nutrition, vitamins, special exercises, spinal region work, paravertebral muscles massage fit perfectly into hernia etiology and pathogenesis. This treatment is physiologically, accessible and can be performed and supervised by physicians with non-surgical specialties in stationary or outpa-

tient settings, after prior consultation with the surgeon.

SELECTIVE REFERENCES

- [1] Suman S., Suman A. Peretele anterolaterale al abdomenului. Chișinău: Print-Caro, 2017. 260 p.
- [2] Standring S. (Editor-in-Chief) Gray's Anatomy: The Anatomical Basis of Clinical Practice. 41th ed. Edinburgh: Elsevier Churchill Livingstone; 2016.
- [3] Urban JP, Roberts S. Degeneration of the intervertebral disc. *Arthritis Res Ther.* 2003; 5(3):120-30.

Corresponding author

MD. Associate professor Radu Turchin
E-mail address: radu.turchin@usmf.md

ABSTRACT

MORPHOLOGICAL STUDY OF RETROMOLAR FORAMEN

Monica-Adriana Vaida¹, Laura-Octavia Grigoriță¹, Adelina-Maria Jianu¹,
Nawwaf Sebastian Damen², Corina-Georgina Matu¹, Adrian-Cosmin Ilie¹,
Loredana Stana¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Pediatric Surgery Clinic, "Louis Turcanu" Emergency Clinical Hospital for Children Timișoara,
Street Doctor Iosif Nemoianu 2, 300011, Timișoara, România.

Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

anatomy, variation, mandible, retromolar foramen.

INTRODUCTION

The retromolar foramen (RMF) is an inconstant foramen situated behind the third molar tooth, in the retromolar fossa, between the temporal crest and the anterior border of ramus of the mandible. It receives the retromolar canal, which arise from the mandibular canal and contains small arteries and veins and a thin myelinated nerve, branch from inferior alveolar nerve.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the incidence and the morphology of the RMF.

MATERIAL AND METHODS

Measurements were made on both sides, on 35 adult human dry mandibles in the Department of Anatomy and Embryology, „Victor Babeș” University of Medicine and Pharmacy, Timisoara, using a Vernier Caliper 150mm 0,02mm, to provide information about the diameter, the width of the RMF and the position into the retromolar fossa. The measurements were compared with the studies reported in the literature.

RESULTS

The RMF was observed in 3 mandibles, out of 35 included in the study. In one mandible the foramen was observed on the left side and in the central portion of the retromolar fossa, and in two mandibles was on the right side, one in the central part and the second in the superior part of the retromolar fossa. The diameter of the RMF varies between 1.01 to 1.35 mm, and the width on the right side varies between 0.9 to 1.1 mm and on the left side was 1.02 mm.

CONCLUSIONS

Presence of RMF and canal, traversed by a neurovascular bundle for the retromolar region, the third molar region and the buccal mucosa, had to be taken into account during local anesthesia and dental surgery on the third molar and retromolar area.

SELECTIVE REFERENCES

- [1] Gamielidien MY, Van Schoor A. Retromolar foramen: an anatomical study with clinical considerations. *Br J Oral Maxillofac Surg.* 2016; 54(7):784-7.
- [2] Motamedi MH, Gharedaghi J, Mehralizadeh S, Navi F, Badkoobeh A, Valaei N, Azizi T. Anthropomorphic assessment of the retromolar foramen and retromolar nerve: anomaly or variation of normal anatomy? *Int J Oral Maxillofac Surg.* 2016; 45(2):241-4.
- [3] Kumar Potu B, Jagadeesan S, Bhat KM, Rao Sirasanagandla S. Retromolar foramen and canal: a comprehensive review on its anatomy and clinical applications. *Morphologie.* 2013; 97(317):31-7.

Corresponding author

MD.PhD, Senior Lecturer

Monica-Adriana Vaida

E-mail adress: vaida.monica@umft.ro

ANATOMO-CLINICAL ASPECTS OF THE ABDOMINAL AORTA AND ITS VASCULAR BRANCHES

Monica-Adriana Vaida¹, Laura-Octavia Grigoriță¹, Adelina-Maria Jianu¹,
Nawwaf Sebastian Damen², Agneta-Maria Pusztai¹, Cristina Gug³,
Ioana Muntean³

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Pediatric Surgery Clinic, "Louis Turcanu" Emergency Clinical Hospital for Children Timișoara, Street Doctor Iosif Nemoianu 2, 300011, Timișoara, România.

³Department of Microscopic Morphology, "Victor Babeș" University of Medicine and Pharmacy Timișoara,

KEYWORDS:

anatomy, abdominal aorta, branches, variation.

INTRODUCTION

Vascular anomalies have been described by many authors in the literature. They represent a very discussed topic, exciting from a scientific point of view because they raise problems regarding the phylogeny and ontogeny of the studied vessels. Knowledge of the vascular anomalies is also important from a clinical, medical and surgical point of view, raising diagnostic and intervention problems in case of bleeding in the gastrointestinal area.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate the morphology of the abdominal aorta (AA) and its vascular branches, to highlight the anatomical variation of the arteries branching and to compare the results with the studies reported in the literature.

MATERIAL AND METHODS

The study was performed on 25 formalin-fixed cadavers, in the Department of Anatomy and Embryology, „Victor Babeș” University of Medicine and Pharmacy, Timisoara. The specimens of the AA, were measured using a Vernier Caliper 150mm 0,02mm, to provide information about the distances between the level of bifurcation of the AA in the common iliac arteries and the origin of each visceral branches. The most interesting anatomical variations were recorded and photographed.

RESULTS

The mean distances between the origin of the visceral branches of the AA and the bifurcation of the aorta in the common iliac arteries were: AA bifurcation-celiac trunk 12.0 ± 1.3 cm, AA bifurcation-superior mesenteric artery 11.0 ± 1.1 cm, AA bifurcation-left renal artery 9.6 ± 1.2 cm, AA bifurcation-right renal artery 9.5 ± 1.3 cm and AA bifurcation-inferior mesenteric artery 4.1 ± 0.8 cm. Regarding the branching pattern of the visceral branches of the AA, the

most interesting cases was a celiac trunk, giving rise to a splenogastric trunk and a common hepatic artery.

CONCLUSIONS

Knowledge of the morphometry and the branching pattern of the abdominal aorta is vital in surgical and radiological procedures related to these vessels.

SELECTIVE REFERENCES

- [1] Michalinos A, Goutas N, Spiliopoulou C, Nikiteas N, Skandalakis P, Gorgoulis V, et al. A study concerning morphometry of abdominal aorta branches and abdominal viscera: relations and correlation. *Folia Morphol (Warsz)*. 2016; 75(1):60-75.
- [2] Hounton SED, Lalèyè CM, Adjadohoun SB, Vidégla BL, Agossou AC, Hounnou GM, et al. Multiple variations of collateral branches of the abdominal aorta associated with pyelic duplication: A case report. *Morphologie*. 2019; 103(341):60-3.
- [3] Prakash, Varsha Mokhasi, Rajini T. The abdominal aorta and its branches: anatomical variations and clinical implications. *Folia Morphol*. 2011;70(4):282–6.

Corresponding author

MD.PhD, Senior Lecturer
Monica-Adriana Vaida

E-mail adress: vaida.monica@umft.ro

ABSTRACT

STEPS TOWARD THE GROSS DIGITAL PATHOLOGY MUSEUM: ARE WE READY FOR IT?

Adrian Vaduva¹, Codruța Lăzureanu¹, Remus Cornea¹, Octavia Vița¹,
Adelina Gheju¹, Aura Jurescu¹, Ioana Mihai¹, Emilian Olteanu¹, Vlad Lupu¹,
Marioara Cornianu¹, Anca Mureșan¹, Sorina Tăban¹, Alis Dema¹

¹Department of Microscopic Morphology/ Morphopathology,
"Victor Babeș" University of Medicine and Pharmacy Timișoara,
Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

gross pathology, 3D reconstruction, virtual specimens.

INTRODUCTION

Recent years have brought a decrease in the number of active pathology museums, related to financial issues, decreased supply of new specimens and decay of the old ones.

THE OBJECTIVE OF THE STUDY

The aim of the study was to obtain the opinion of the medical students on the introduction of 3D reconstructed specimens as adjunct materials in the gross pathology teaching.

MATERIAL AND METHODS

We photographed pathology specimens from the Pathology Museum of the Victor Babeș University of Medicine and Pharmacy from Timisoara. 3D virtual specimens were created using 3dFlow Zephyr photogrammetry software. These 3D specimens were then used as teaching materials in the tutorial part of the gross laboratory, while the formalin stored specimens were examined individually at the end of the lab. Students from the Romanian teaching program were asked to submit anonymous open-ended feed-back papers.

RESULTS

We collected 115 feed-back papers. The majority of students agreed that using 3D specimens would be their preferred method of teaching for future pathology labs (79/115-68.7%), while 4/115-3.5% had mixed feelings and did not specify a preferred method. The 3D reconstruction use was described as being "a better/best/perfect method", "a good combination of teaching methods", a method that highlights the small details better and that in this way "everyone can see, we no longer need to crowd around small jars". A few students said that it "was difficult to assess the physical size" and that the reconstructions are not well done.

CONCLUSIONS

In this preliminary study, the overall positive feed-back received from our students shows that further steps into digitizing the pathology museum can be taken, as long as we do not fully switch to digital only and remove the physical, formalin stored, specimens as teaching materials.

SELECTIVE REFERENCES

- [1] Adams JW, Paxton L, Dawes K. 3D printed reproductions of orbital dissections: a novel mode of visualising anatomy for trainees in ophthalmology or optometry. *Br J Ophthalmol.* 2015; 99:1162–7.
- [2] Darras KE, de Bruin ABH, Nicolaou S. Is there a superior simulator for human anatomy education? How virtual dissection can overcome the anatomic and pedagogic limitations of cadaveric dissection. *Med Teach.* 2018; 40:752–3.
- [3] Pup A, Buciu V, Vaduva A. Virtual pathology: Bringing the digital 3D reconstructed gross specimens in teaching routine. Timișoara: Medis Abstract book. 2019 pp 17–18.

Corresponding author

MD, PhD, Assistant Professor
Vaduva Adrian

E-mail address: vaduva.adrian@umft.ro

ABSTRACT

MORPHOLOGICAL ASPECTS AND CLINICAL IMPLICATIONS OF ECTOPIC PARATHYROID TISSUE

Octavia Vița¹, Marioara Cornianu^{1,2}, Adrian Văduva¹, Sorina Tăban^{1,2}, Codruța Lăzureanu^{1,2}, Aura Jurescu¹, Adelina Gheju¹, Ioana Mihai¹, Remus Cornea^{1,2}, Alis Dema^{1,2}

¹Department of Microscopic Morphology/ Morphopathology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

²Department of Pathology, "Pius Brînzeu" County Emergency Hospital Timișoara, Liviu Rebreanu Bd., No. 156, 300723, Timișoara, România.

KEYWORDS:

ectopic parathyroid tissue, hyperparathyroidism, parathyroid adenoma.

INTRODUCTION

Incidence of ectopic parathyroid tissue is estimated at 7-46% by anatomists or surgeons. It is caused by aberrant migration during early stages of development. Ectopic inferior parathyroids are most frequently found in the anterior mediastinum, in the thymus or the thyroid gland, while the common location of ectopic superior parathyroids is in retroesophageal region and the tracheoesophageal groove. Ectopic parathyroid tissue can be asymptomatic unless discovered incidentally but it can undergo adenomatous or hyperplastic change and cause primary hyperparathyroidism, sometimes persistent or recurrent if misdiagnosed.

THE OBJECTIVE OF THE STUDY

We aimed to find clinicopathological characteristics in ectopic parathyroid tissue patients.

MATERIAL AND METHODS

We performed a retrospective histopathological study on ectopic parathyroid tissue cases diagnosed between 2016 and 2018 at the Emergency County Hospital Timisoara, Romania. Clinicomorphological data and site of ectopic parathyroid tissue were assessed.

RESULTS

We identified 10 patients (all women, mean age 49,6) with ectopic parathyroid tissue with the following location: in 2 cases in the thymus and in 8 cases in the thyroid gland (2 cases in the left thyroid lobe and 6 cases in the right thyroid lobe). Parathyroid ectopic tissue was accidentally discovered following surgery for thyroid pathology (follicular adenomas, nodular goiters, papillary microcarcinoma, papillary carcinomas and granulomatous thyroiditis) in 8 cases. In two cases of hyperparathyroidism, adenoma was diagnosed in the ectopic parathyroid tissue

from thyroid gland, one of them being clinically suspect.

CONCLUSIONS

In the presence of primary hyperparathyroidism, the existence of a parathyroid adenoma developed in ectopic parathyroid tissue should be considered.

SELECTIVE REFERENCES

- [1] Noussios G, Anagnostis P, Natsis K. Ectopic parathyroid glands and their anatomical, clinical and surgical implications. *Experimental and Clinical Endocrinology Diabetes*. 2012; 120(10):604-10
- [2] Zeze F, Itoh H, Ohsato K. Hyperplasia and adenoma of the ectopic parathyroid gland. *Nihon Rinsho*, 1995; 53(4):920-4.
- [3] Theurer S, Siebolts U, Lorenz K, Dralle H, Schmid KW. Ectopic tissue of the thyroid gland and the parathyroid glands. *Patologie*. 2018; 39(5):379-89.

Corresponding author

MD. Assistant Professor Octavia Vita
E-mail address: vita.octavia@umft

ABSTRACT

MORPHOLOGICAL VARIATIONS OF COMMUNICATING ARTERIES OF THE CEREBRAL ARTERIAL CIRCLE AND THEIR CLINICAL IMPORTANCE

Delia Elena Zăhoi¹, Dorina Sztika¹, Lucia Stoican¹, Agneta Maria Pusztai¹, Ecaterina Dăescu¹

¹Department of Anatomy and Embryology, "Victor Babeș" University of Medicine and Pharmacy Timișoara, Eftimie Murgu Square, No.2, 300041, Timișoara, România.

KEYWORDS:

anterior communicating artery, posterior communicating artery, morphological variations, dissection.

INTRODUCTION

Cerebral vascular pathology is an important area of focus, due to its' high frequency and elevated mortality risk. Being very complex, it also requires detailed knowledge of cerebral blood flow. Of key importance in this is the cerebral arterial circle.

THE OBJECTIVE OF THE STUDY

The objective of the study was to investigate morphological variations of the communicating arteries (anterior and posterior) of the cerebral arterial circle in adults and their clinical implications in cerebrovascular pathology.

MATERIAL AND METHODS

The study was carried out in the Lab of the Anatomy and Embryology Department from Timisoara and used dissection on a sample set of 30 adult cadavers (13 males and 17 females) with no known cerebral pathology.

RESULTS

The cerebral arterial circle has an important place in the dynamics of cerebral circulation. In many cases, arterial variants do not affect cerebral circulation due to anastomoses, by means of which the vascular flow is compensated by the arteries on opposite sides. The study material was analyzed for morphological variants of the anterior and posterior communicating arteries. The posterior communicating artery presented morphological variations in 40% of the cases: (i) unilateral hypoplasia in 5 cases (16.67%); (ii) unilateral agenesis in 4 cases (13.33%); (iii) bilateral hypoplasia in 2 cases (6.67%); (iv) bilateral agenesis in one case (3.33%). The anterior communicating artery, although a small sized vessel which connects the A1 portions of the two anterior cerebral arteries has an important

role, as it facilitates anastomosis between the two internal carotid arteries through the cerebral arterial circle. It presented morphological variations in 33.3% of the cases: (i) agenesis in 4 cases (13.3%); (ii) duplicated in 3 cases (10%); (iii) hypoplasia in 3 cases (10%).

CONCLUSIONS

Morphological variations of the communicating arteries, especially those resulting in fewer alternative routes for blood flow can aggravate the impact of strokes. Agenesis or hypoplasia of the posterior communicating arteries can cause asymmetry of the cerebral arterial circle, which may create irregularities of the cerebral arterial flow.

SELECTIVE REFERENCES

- [1] Shubhangi Y. Variations of circle of Willis in human cadavers. *Int J Anat Var*, 2018, 11(2):43-5.
- [2] Niderberger E, Gauvrit JY, Morandi X, Carsin-Nicol B, Gauthier T, Ferre JC. Anatomic variants of the anterior part of the cerebral arterial circle at multidetector computed tomography angiography. *Journal of Neuroradiology*, 2010, 37(3):139-47.
- [3] Iqbal S A. Comprehensive Study of the Anatomical Variations of the Circle of Willis in Adult Human Brains. *J Clin Diagn Res*, 2013, 7(11):2423-7.

Corresponding author

MD.PhD, Professor Delia Elena Zăhoi
E-mail adress: dzahoi@umft.ro

ABSTRACT

THE ANATOMICAL VARIATION OF THE ORIGIN OF THE DEEP BRACHIAL ARTERY

Zinovia Zorina¹, Ilia Catereniuc¹

¹Department of Human Anatomy,
„Nicolae Testemițanu” State University of Medicine and Pharmacy of the Republic of Moldova,
Republic of Moldova, MD-2004, Chișinău, bd. Ștefan cel Mare și Sfânt, 165.

KEYWORDS:

deep brachial artery, arterial anatomical variations.

INTRODUCTION

The deep brachial artery (DBA) is the main collateral branch of the brachial artery. The atypical origin of the DBA should be taken into consideration by the surgeons during the harvesting of the muscle flaps in the lateral region of the arm.

THE OBJECTIVE OF THE STUDY

The study of the anatomical variations of the DBA depending on the gender and the studied body part.

MATERIAL AND METHODS

We conducted a retrospective, descriptive study of the upper limb arteries based on 154 angiographies, and on 57 upper limbs (UL), collected from formalized adult cadavers. The level of origin and type of branching of the DBA as well as variations of the present common arterial trunks were identified by analyzing the angiographic images and applying the fine anatomical dissection method respectively.

RESULTS

We identified variations of origin for the DBA on 28 UL (12.32%): 18 (8.53%) male (11 on the right UL (R); 7 on the left UL (L)); 8 (3.79%) – female (3R; 5L). We found unique anatomical variations of the DBA on 22 UL (10.42%) and with multiple variations – 4 UL (1.89%). Common trunks (CT) involving the DBA were found on 20 UL (9.47%): 14 (6.63%) male (7 R; 7 L) and 6 (2.84%) female (3R; 3 L); CT formed from 2 arteries were found on 12 UL (5.68%); CT from 3 arteries on 5 UL (2.36%) and from 4 arteries – on 3 UL (1.42%). The presence of a double DBA was identified in 9 UL (4.26%): 5 (2.36%) male (3 R; 2 L) and 4 (1.89%) female (2 R; 2 L).

CONCLUSIONS

In cases of variations of the origin of the deep brachial artery, the DBA is most frequently originating from the CT, particularly for males, on the right UL. The most CT are formed from 2 arteries.

SELECTIVE REFERENCES

- [1] Chakravarthi KK, Siddaraju KS, Venumadhav N, Sharma A, Kumar N. Anatomical Variations of Brachial Artery – Its Morphology, Embryogenesis and Clinical Implications. *Journal of Clinical and Diagnostic Research*. 2014; 8(12): 17-20.
- [2] Rodríguez-Niedenführ M, Vázquez T, Nearn L, Ferreira B, Parkin I, Sañudo JR. Variations of the arterial pattern in the upper limb revisited: a morphological and statistical study, with a review of the literature. *J Anat*. 2001; 199(Pt5): 547-66.
- [3] Aughsteen AA, Hawamdeh HM, Al-Khayat M. Bilateral variations in the branching pattern of brachial artery. *International Journal of Anatomical Variations*. 2011; 4:167-70.

Corresponding author

MD. Assistant Professor Zinovia Zorina
E-mail address: zinovia.zorina@usmf.md

**RESEARCH AND CLINICAL
MEDICINE**

www.resclinmed.eu

Piata Eftimie Murgu 2, 300341, Timisoara, Romania

ISSN: 2360-1124