INTRODUCTION

Meningioma is one of the most common types of brain tumors in adults which arise from the "cap" cells of the arachnoid villi in the meninges and constitute up to 20% of all primary brain tumors and only 1-3% of them are malignant. [1] Malignant meningiomas are well known for their aggressively recurrence rate and for their poor prognosis.

CASE REPORT

A 64-year old man presented to the neurosurgery department with motor deficit in the right hemi-body, loss of speech and disorientation. He was admitted for diagnosis and specialized treatment. Neurological examination revealed the patient conscious, with motor aphasia, right hemiparesis and sphincter disorders. Physical examination was followed by magnetic resonance imaging (MRI) that revealed a mass located in the left frontal lobe that measured 7/8/7 cm, with perilesional edema, important mass effect on the surrounding structures and midline displacement with 16.5 mm (Fig. 1). The results led to the conclusion that surgery is necessary. The surgical intervention consisted of a left frontal craniotomy, resulting a total ablation of the mass. The specimen was submitted for histopathological examination.

Several macroscopic fragments measuring 8.5/10/2 cm, of white color with dark areas and elastic consistency were analyzed. Microscopy revealed an epithelioid and spindle cell proliferation, with intercellular boundaries erased, pale eosinophilic cytoplasm, round nuclei with either granular or vesicular chromatin, moderate pleomorphism and visible nucleoli. There was a great number of hypercellular areas (Fig.2A), mitotic index of >50 /10 high power fields (HPFs) (Fig. 2B and C), focal necrosis with psammoma bodies (Fig. 2D), calcification and minimal inflammatory infiltrate.

Fig. 1: MRI examination showed a mass located in the left frontal lobe.

Fig. 2: (A) H&E examination of the tumor revealed an epithelioid and spindle cell proliferation, with necrosis areas, (B, C) a high mitotic index, (D) and intratumoral psammoma bodies.
Contrary to anaplastic meningioma, HPCs have the characteristic intratumoral staghorn vessels, the necrosis is uncommon and there are no psammoma bodies or calcification. HPCs are negative for EMA and most of them are positive for CD34. [2, 3] Atypical meningioma may exhibit common features with the anaplastic one, but a high mitotic index as in our case or the anaplastic cytology rule out the atypical variant.

Abry E et al (2010) analyzed the value of Ki67/MIB-1 index in meningiomas based on 53 articles found in the literature and he found that in grade I meningiomas Ki67 labeling index was 3%, while in grade II and III meningiomas the index increased at 8%, respectively 17%. [4] In our case, the Ki67 was 70% indicating an aggressive behavior of the tumor.

The standard treatment of anaplastic meningioma is surgical removal of the tumor followed by radiotherapy. [5, 6] So far, there is no proven effective chemotherapy for meningiomas. Complete removal of the tumor is an independent prognosis factor but unfortunately there are cases where the surgical accessibility is limited by the tumor widespread or by attachment to the vital structures. Complete resection, where is possible, followed by radiotherapy increase the five years' survival at 57%. [1, 2, 5] However, the majority of cases carries a poor prognostic with a median survival less than two years. [2] Besides the high rate of recurrences, 0.1% of anaplastic meningiomas metastasize in lungs, pleura, musculoskeletal system, liver and kidneys. [5]

In conclusion, anaplastic meningioma is a rare and aggressive variant of meningioma that can prove a diagnosis challenge for the pathologists. A panel of antibodies is necessary to for differentiating it from other tumors.
REFERENCES


