

## WHICH ARE THE BEST CUT-OFF VALUES FOR PREDICTING DIFFERENT STAGES OF LIVER FIBROSIS FOR 2D-SWE.GE IN DAILY PRACTICE?

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### OBJECTIVES AND BACKGROUND

To evaluate the performance of 2D shear wave elastography from General Electric (2D-SWE.GE) for the noninvasive assessment of liver fibrosis and to identify liver stiffness (LS) cut-off values for predicting different stages of fibrosis, using Transient Elastography (TE) as the reference method.

### MATERIALS AND METHODS

The study group included 331 consecutive subjects with or without chronic hepatopathies in whom liver stiffness (LS) was evaluated in the same session by means of 2 elastographic techniques: TE (FibroScan, EchoSens, Paris, France, M or XL probes) and 2D-SWE.GE (LOGIQ E9, GE Healthcare, Chalfont St Giles, United Kingdom, C1-6-D convex probe). Reliable LS measurements were defined as follows: for TE – the median value of 10 measurements with a success rate of  $\geq 60\%$  and an interquartile range  $< 30\%$  and for 2D-SWE.GE - the median value of 10 measurements acquired in a homogenous area and an interquartile range (IQR)  $< 30\%$ . To discriminate between various stages of fibrosis using TE we applied the following cut-offs: F2 - 7 kPa; F3 - 9.5 kPa and F4 - 12 kPa (1).

### RESULTS

Reliable LS measurements were obtained in 317/331 (95.8%) subjects by 2D-SWE.GE, and in 312/331 (94.2%) by TE ( $p=0.44$ ). The final analysis was performed on 303 subjects with valid measurements using both methods. Based on TE cut-off values we divided our

cohort into the following groups: F $<$ 2: 30.1%; F=2: 10.2%; F=3: 12.2%; F=4: 47.5%. We found a strong correlation between the obtained LS values following the application of the 2 methods:  $r=0.83$ ,  $p<0.0001$ . Overall, LS values obtained by means of 2D-SWE.GE were significantly lower than those obtained by TE:  $10.14\pm 4.24$  kPa vs.  $16.72\pm 13.4$  ( $p<0.0001$ ). The best cut-off value for F $\geq 2$  was 6.7 kPa, for F $\geq 3$  it was 8.2 kPa and for F=4 it was 9.3 kPa.

### CONCLUSIONS

The best 2D-SWE.GE cut-off values for predicting F $\geq 2$ , F $\geq 3$  and F=4 were 6.7, 8.2 and 9.3 kPa.

### REFERENCES

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