TRANSIENT ELASTOGRAPHY AS A PREDICTOR OF OESOPHAGEAL VARICES, A COMPARISON WITH OTHER NON INVASIVE MARKERS

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Introduction Surveillance for varices is recommended for cirrhotic patients, with endoscopy the gold standard investigation.

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	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
APRI	33.3	75.8	38.5	71.4
AST/ALT	79.3	34.3	34.3	79.3
FIB-4	62.1	56.7	38.3	77.6
Fibroscan (17.6 kPa)	88.9	18.8	30.0	81.3
Fibroscan (26 kPa)	65.5	47.8	35.2	76.2

The authors sought to establish the utility of transient elastography (TE) in predicting the presence of varices, in comparison with other non-invasive markers.

Methods Patients who had undergone measurement of liver stiffness using TE (Fibroscan) between October 2008 and October 2010 in our institution were identified. Patients with a liver stiffness measurement (LSM) suggestive of cirrhosis (>12 kPa) who had also undergone endoscopy were selected. Laboratory data and patient's age, were used to calculate AST/ALT ratio, APRI and FIB-4 scores. A LSM of 17.6 kPa, validated in patients with Hepatitis C, was used as the cut off to predict varices. Previously published cut-offs for the other non-invasive markers were also applied and used to calculate sensitivity, specificity and positive and negative predictive values for the prediction of oesophageal varices.

Results 96 patients met the inclusion criteria (27 HCV, 26 ALD, 7 NAFLD, 7 autoimmune hepatitis, 6 cryptogenic cirrhosis, 6 under investigation, 11 dual pathology, 6 others). 25/96 (26%) of patients had oesophageal varices (12 small, 13 large). The performance characteristics of each test are shown in table 1. Receiver operating curve analysis suggested an optimal liver stiffness cut off of 26 kPa for our cohort. Subgroup analysis of patients with/without hepatitis C as the cause of liver disease showed similar results.

Conclusion TE is highly sensitive in predicting the presence of oesophageal varices in a cohort of patients with a diverse range of aetiology of liver disease. However a cut off of 17.6 kPa demonstrates low positive predictive power and specificity, and would have wrongly categorised 19.7% of patients with varices. A cut off of 26 kPa would improve the PPV, but misclassify 23.8% of patients with varices. TE may give useful information about the pretest probability of finding varices, however its performance characteristics are not sufficient to obviate the need for endoscopy.

Competing interests None.

Keywords non-invasive markers of fibrosis, transient elastography, varices.