



# Large oesophageal varice screening by a sequential algorithm using a cirrhosis blood test and optionally capsule endoscopy

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**BACKGROUND & AIMS:** Large oesophageal varice (LEV) screening is recommended in cirrhosis. We performed a prospective study to improve non-invasive LEV screening.

**DESIGN:** 287 patients with cirrhosis had upper gastrointestinal endoscopy (LEV reference), oesophageal capsule endoscopy (ECE), liver elastography and blood marker analyses. CirrhoMeter (cirrhosis blood test), the most accurate non-invasive LEV test, was segmented for cirrhosis (reference comparator) or LEV. VariScreen, a sequential and partially minimally invasive diagnostic algorithm, was developed by multivariate analysis. It uses CirrhoMeter first, then ECE if CirrhoMeter cannot rule LEV out or in, and finally endoscopy if CirrhoMeter+ECE combination remains uninformative.

**RESULTS:** Diagnostic effectiveness rates for LEV were: cirrhosis-segmented CirrhoMeter: 14.6%, LEV-segmented CirrhoMeter: 34.6%, ECE: 60.6% and VariScreen: 66.4% ( $P \leq .001$  for overall or pair comparison). The respective missed LEV rates were: 2.8%, 5.6%, 8.3% and 5.6% ( $P = .789$ ). Spared endoscopy rates were, respectively: 15.6%, 36.0%, 70.6% and 69%, ( $P < .001$  for overall or paired comparison except ECE vs VariScreen:  $P = .743$ ). VariScreen spared 38% of ECE and reduced missed LEV by 87% compared to classical ECE performed in all patients. Excepting cirrhosis-segmented CirrhoMeter, these spared endoscopy rates were significantly higher than that of the Baveno VI recommendation (using platelets and Fibroscan): 18.4% ( $P < .001$ ). Ascites and Child-Pugh class independently predicted endoscopy sparing by VariScreen: from 86.0% in compensated Child Pugh class A to 24.1% in Child-Pugh class C with ascites.

**CONCLUSION:** VariScreen algorithm significantly reduced the missed LEV rate with ECE by 87%, ECE use by 38% and endoscopy requirement by 69%, and even 86% in compensated cirrhosis.

Résumé en anglais

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