

## Impact of Pre-Screening with Fibrosis-4 Index on a Referral Pathway for Patients with Suspected NAFLD

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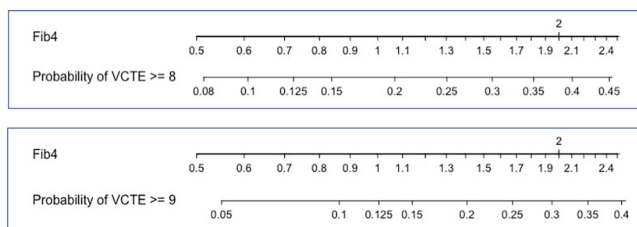
### Abstract Text

**Background:** Population-based screening for liver fibrosis using vibration-controlled transient elastography (VCTE) has been proposed for early detection of patients with advanced fibrosis. In a setting with wide geographical population distribution, the utility of VCTE is diminished and alternative strategies are required. Fibrosis-4 index (FIB-4) has been considered as a simple, non-invasive marker to select patients with very low risk of significant fibrosis (FIB-4 <1.3). The aim of this study was to assess the potential impact of implementing a *FIB-4 first* strategy to triage patients using a clinical referral pathway for suspected non-alcoholic fatty liver disease (NAFLD).

**Methods:** A referral pathway for patients with suspected NAFLD was piloted at a tertiary liver centre drawing from 8 primary care networks with an estimated population of 850,000. Referral criteria were age 18-65, elevated ALT and/or steatosis reported on imaging and absence of a previous liver diagnosis. A registered nurse risk-stratified all patients based on VCTE. Blood tests were used to exclude potential alternative diagnosis and to calculate FIB-4. Patients with a non-NAFLD diagnosis or with VCTE  $\geq 8$  kPa were referred to a hepatologist. The remaining patients were provided with lifestyle advice and booked for a repeat assessment in 1 or 2 years. The risk of advanced fibrosis (defined by either VCTE  $\geq 8$  kPa or VCTE  $\geq 9$  kPa) according to FIB-4 was estimated with logistic regression.

**Results:** 433 patients underwent risk stratification with VCTE with a 98% success rate. Liver diagnosis were predominantly NAFLD (85%) followed by previously undiagnosed alcohol related fatty liver (11%). 14% of the patients had VCTE  $\geq 8$  kPa and 10%  $\geq 9$  kPa. 361 (85%) patients had a FIB-4 <1.3. Out of these patients, 10% had a VCTE  $\geq 8$  kPa, 7% had a VCTE  $\geq 9$  kPa and 2% were technical failures. The figure provides the estimated risk of a VCTE  $\geq 8$  and  $\geq 9$  kPa according to FIB-4. Among the 45 patients with low FIB-4 and VCTE  $\geq 8$  kPa or indeterminate, 6 underwent a liver biopsy, 2 of which had advanced fibrosis.

**Conclusion:** As compared with a referral pathway in which all patients with suspected NAFLD undergo VCTE for risk stratification, a FIB-4 first strategy (with a threshold of 1.3) would save 85% of VCTE assessments. The pathway would decrease cost and increase the reach of screening to distant centres where specialized services are not available. The risk of missing advanced fibrosis would be extremely low.



### Disclosures

Juan G. Abraldes – Theravance: Consulting; Lupin Pharma: Speaking and Teaching

Puneeta Tandon – Lupin Pharma Canada: Advisory Committee or Review Panel

The following people have nothing to disclose: Tracy Davyduke, Mang M. Ma