Noninvasive LIVERFASSTM transition rate to liver fibrosis is similar to that estimated with liver biopsy in NAFLD patients


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ABSTRACT

Background: The aim was to demonstrate that LIVERFASSTM is an alternative to liver biopsy for the estimation of the transition rate to liver fibrosis (transition to stage F1 or more) in NAFLD patients.

Methods: TTR was evaluated using Cox-Mantel Hazard Ratios (CMHR) and logrank comparison, a non-parametric test modeling hazard derived from birth to age 65. Patients with NAFLD, T2D, and/or nT2D were evaluated. Liver fibrosis was assessed using LIVERFASSTM, which combines 10 biomarkers including liver perisinusoidal pressure. In both populations with or without T2D, patients were evaluated using transient elastography with a liver stiffness measurement (LSM) for stage F1 or more.

Results: TTR was significantly less in T2D patients with NAFLD compared to T2D patients without NAFLD. However, there were no significant differences for TTR in our study compared to that in other studies. TTR was significantly different in T2D patients with NAFLD and T2D patients without NAFLD.

Conclusions: Evaluation of biomarkers such as LIVERFASSTM could allow a significant reduction of liver biopsy and other invasive strategies for treating patients.

BACKGROUND

Liver biopsy is not adapted to routine diagnosis due to the high prevalence of NAFLD. NOA sample-related variability and poor acceptance.

AIMS

To demonstrate that LIVERFASSTM Fibrosis score (L-Fib) is a surrogate of liver biopsy (LB) for the estimation of the transition rate to fibrosis stage F1 or more (TTR), in type 2 diabetic (T2D) patients with better performances than liver stiffness measurement (LSM) by transient elastography and than FIB-4 index.

RESULTS

Patients: Prospectively collected NAFLD patients from a tertiary Liver Center (Bordeaux, France) (NCT01241227).

Concomitant LB and LIVERFASSTM, TE, FIB-4.

Transition rate to any fibrosis stage (TRF) was evaluated using modeling of hazard from birth to the age of the liver fibrosis estimator.

Cutoffs for noninvasive F1 stage: - LB SAF score: perisinusoidal zone 3 or portal fibrosis LIVERFASSTM - Fibrosil: 0.28; TE: 5.5 MPa; FIB-4: 1.45.

Statistics: Cox Mantel Hazard Ratios (HR), logrank comparison of survival between groups.

Logistic regression, Odds Ratio

PATIENTS & METHODS

LIVERFASSTM (Fibronostics, Orlando, Florida)

All computer-aided biomarkers constructed using NAFLD histology (Hepatology 2003) for assessing noninvasive fibrosis, activity and steatosis. Combined 15 biomarkers including liver-specific fibrosis markers, lipoprotein, liver enzymes, BMI, age, and gender. LIVERFASSTM: LIVERFASSTM

Multivariate analysis

In T2D NAFLD patients, LIVERFASSTM Fibrosis, Activity and Steatosis, high blood pressure and male gender were independently associated to the histological transition to fibrosis.

CONCLUSIONS

LIVERFASSTM: Detection of progression from simple NAFL to NAS and fibrosis, similar to liver histology to predict over or underestimation.

Better and earlier screening strategy for stratifying high-risk patients for NASH, as T2D aged ≥45 years or having co-morbidities as obesity or arterial hypertension.

Improved estimation of elementary liver lesions with noninvasive standard-of-care

Disclosures

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