Repeated noninvasive liver biopsy surrogate LIVERFASt™ correlates with BMI and liver enzymes improvements

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INTRODUCTION

- MAFLD-related morbi-mortality is increasing worldwide due to epidemics of obesity and type 2 diabetes (T2D). (2)
- **LIVERFASt™** (Fibronostics, Florida, US) is a new point-of-care proprietary technology to assess quantitatively (normalized score from 0.00 to 1.00) liver fibrosis, steatosis and steatohepatitis in MAFLD patients. (1,3)
- **LIVERFASt™** is a blood based serum biomarker that demonstrated prognostic value for liver-related events and overall mortality (1,4)

AIMS

- To assess liver fibrosis regression rate (LFR) USING repeated LIVERFASt™ AND CORRELATIONS with IMPROVEMENTS in clinical endpoints, body mass index BMI ≥ 10% and liver enzymes ALT ≥ 50% from baseline.

METHODS

Patients with repeated LIVERFASt™ prospectively included in a tertiary hepatology center.
Clinical endpoints considered for significant improvements assessment during follow up:
- BMI decrease of more than 10% from baseline value and
- ALT decrease more than 50% from baseline value.

Significant fibrosis stage improvement was considered with each half of stage translated into 0.15 improvement in LIVERFASt™ score.

Fibrosis Progression Rate (FPR) used time dependent statistics Cox Mantel hazards ratio HR (95%CI).

RESULTS

STUDY DESIGN

- N=401 MAFLD patients INCLUDED
  - Having at least one repeated LIVERFASt™ measurements during follow-up
  - 168± to 7 repeated LIVERFASt™ measurements during follow-up

CHARACTERISTICS OF INCLUDED PATIENTS

<table>
<thead>
<tr>
<th>N=401</th>
<th>Male gender</th>
<th>%</th>
<th>Median (range) Age</th>
<th>56 (21-77)</th>
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Presumed Fibrosis stages

| F0 | 40% |
| F1 | 29% |
| F2 | 17% |
| F3 | 5% |
| F4 | 8% |

Presumed fibrosis regression according to LIVERFASt™ more than half stage (≥0.05) from baseline

13/401(3.24%)

LIVERFASt™ median score (se) 0.27 (0.03)

Clinical endpoints

- ALT ≥50% BMI ≥10%
- 109/401(27.2%) 75/401 (18.7%)

Median follow-up

- 9.9 years
- Median (range) follow up (baseline to the last repeated LF-Fib) 3.37 years (3.9-

CUMULATIVE SURVIVALS OF PRESUMED LIVER FIBROSIS with LIVERFASt

Half-stage liver fibrosis Improvement as per LIVERFASt™ was more likely among those patients that achieved ALT regression of 50% or more from baseline:

Cox Mantel Hazard Ratios (HR[95%CI]):

3.47 (1.08-11.19) in the group with ALT regression lesser than 50% from baseline versus 0.29 (0.09-0.93) in the group with ALT regression 50% or more (logrank probability level 0.02)

CONCLUSIONS

- Half-stage Liver fibrosis regression as presumed with LIVERFASt™ fibrosis score was significantly more likely in patients achieving ALT enzymatic activity improvement 50% or more from baseline values.
- A trend was observed in patients that achieving BMI Improvement of 10% or more from baseline.
- **LIVERFASt™** Fibrosis score correlates with clinical endpoints and, therefore, can be used for long-term monitoring of MAFLD patients.

REFERENCES


CONTACT INFORMATION

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