The utility of noninvasive tests (NITs) - LIVERFASt, FIB4 and VCTE (Fibroscan) - in the initiation and monitoring of the therapy with TNR-beta agonist (resmetirom) in MASH patients

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BACKGROUND

Resmetirom therapy (RT) was recently approved by the FDA for non-cirrhotic MASH with fibrosis. The impact of RT on NITs has not been assessed in real-life patients. LIVERFASt (LFAST) is a new blood-based NIT that assesses liver fibrosis, activity, and steatosis, potentially useful in monitoring pts under RT.

AIMS

To assess retrospectively the dynamic of NITs in initiating/monitoring of patients ongoing RT [fibrosis, activity and steatosis progression rate (PR) and mean change from baseline].

METHODS

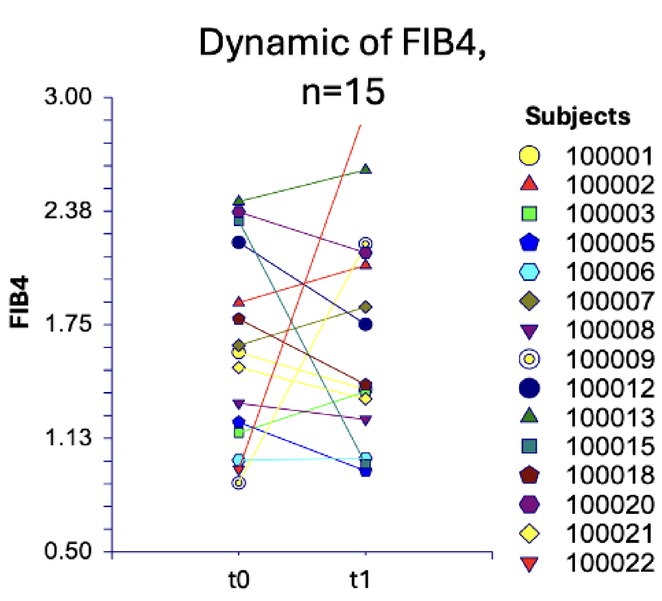
Patients with baseline and repeated either NITs (LFAST, VCTE and FIB4) during RT have been included. LFAST is a blood-based test that generates scores (0.00-1.00) proportional to the severity of fibrosis, activity, and steatosis. Statistics assessed PR between baseline (t0) and repeated (t1) NITs using repeated measurements ANOVA, descriptive and sensitivity (for GLP-1 analog treated pts) analysis.

RESULTS

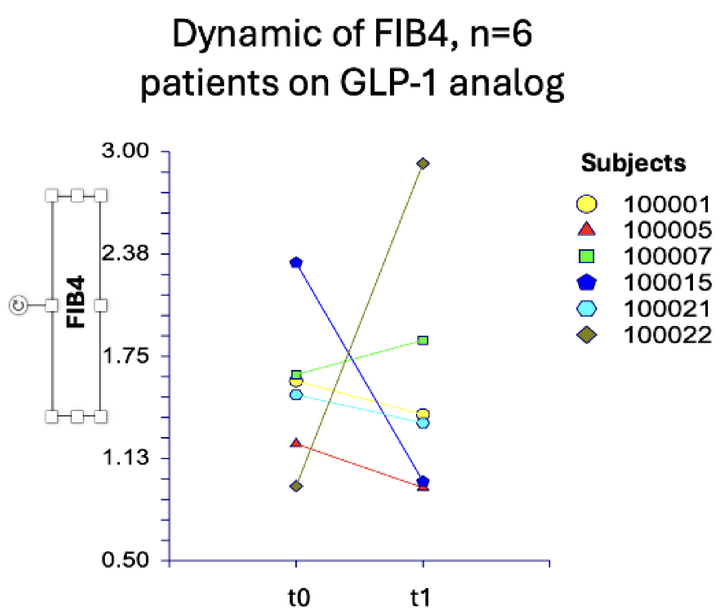
24 eligible patients have been enrolled without RT discontinuation (42% 100mg-dose), 46% male, 54% T2D, mean(se) age 59(2), BMI 33(1), ALT 48(6), AST 36(5), platelets 237(11), FIB4 1.46(0.13). Using LFAST and VCTE, baseline prevalence of F2F3 were 54% and 55%. Median (range) delays (months) t0-t1 were 6.4 (4.3;7.9) for LFAST and 5.1 (2;7.4) for FIB4. 52% patients t0-FIB4 ≥1.3 and 15patients already had t1-FIB4, without significant change for FIB4, ALT or AST (1.62vs1.68), despite platelets count improvement (241vs226*109, p=0.04). 6 patients that had concomitant GLP-1 analogs (FIB4 1.54vs1.57, p=ns). Only two patients had repeated VCTE/CAP (kPa/dB/m) with changes in LSM of 0.4/87 and in CAP of 1/10.

Up to date 6 patients had achieved t1-LFAST: median fibrosis (0.39vs0.39), steatosis (0.62vs0.53), activity (0.30vs0.34).The median (range) PR t0-to-t1 per month were: for FIB4 -0.028(-0.28;1.00) and for LFAST fibrosis 0.006(-0.02;0.05), steatosis -0.009(-0.09;0.01) and activity 0.002(-0.07;0.03). The mean(se) decrease in total cholesterol [-18(11)mg/dl] had no significant impact in Apolipoprotein A1 [-4.2(8.0)mg/dl] and LFAST score [0.02(0.02)].

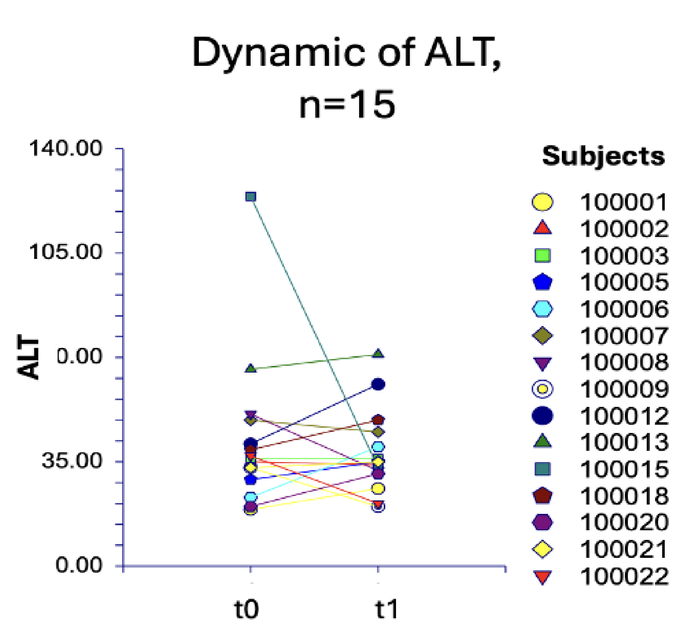
Figure 1



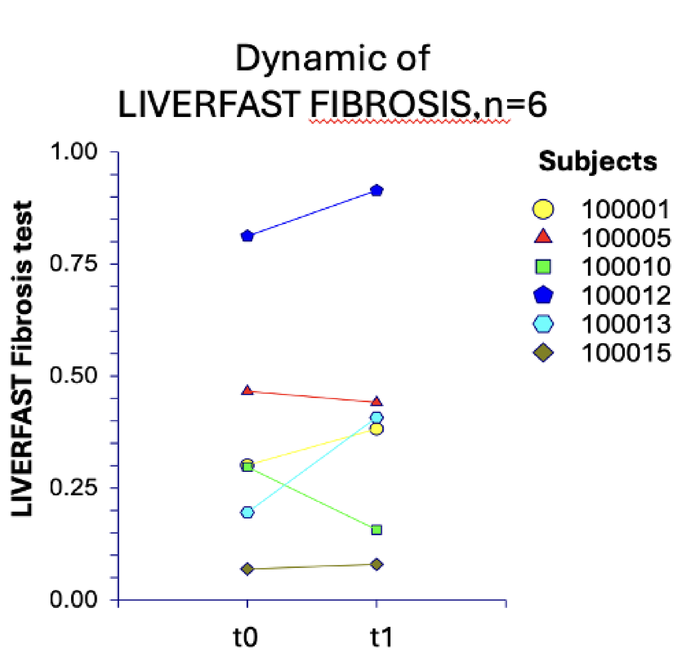
Dynamic of LIVERFAST FIBROSIS,n=6

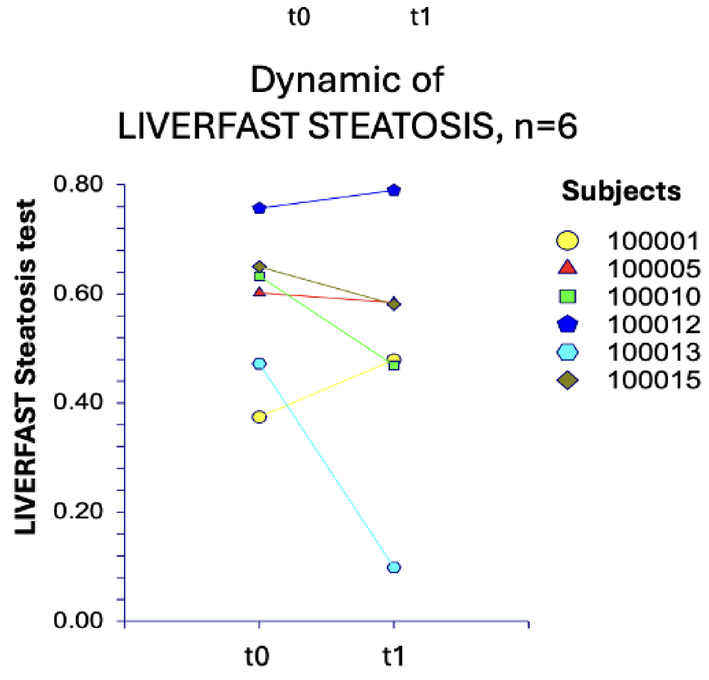


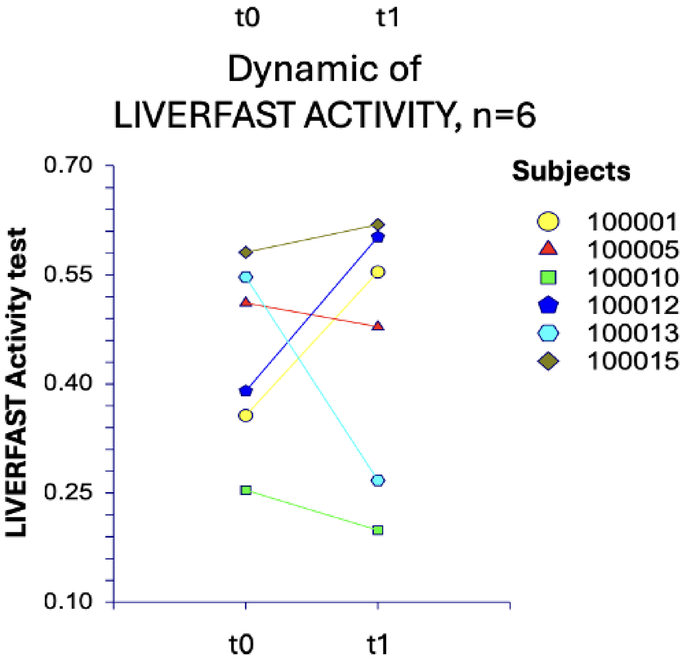
Dynamic of LIVERFAST STEATOSIS, n=6



Dynamic of LIVERFAST ACTIVITY, n=6







CONCLUSIONS

Initiation of RT based on noninvasive assessment of patients using LFAST, FIB4 (fibrosis only) and VCTE is efficient and allows further non-invasive monitoring. A rapid trend in steatosis improvement was observed.