Non-invasive screening reveals high rates of fibrosis in diabetic/obese patients with NAFLD and normal liver biochemistry

Y. GAO-DU, L. BURKE, K. MOHAMMED and L. CORLESS
Hull and East Yorkshire Hospitals NHS Trust, Hull, United Kingdom

BACKGROUND
• The association between non-alcoholic fatty liver disease (NAFLD) and type 2 diabetes (T2DM) and obesity is well established.
• Current UK guidelines do not recommend screening for NAFLD in these populations.
• Metabolic clinics have little hepatology support and few NAFLD management pathways.
• This may result in missed opportunities to diagnose, stage and treat NAFLD.

AIM
• To determine the scale of clinically significant NAFLD in our T2DM and obese populations

METHOD
• T2DM or obese patients attending a secondary care metabolic clinic over a 3-month period were included.
• Fibrosis risk was assessed via a 2-step pathway:
  1. NAFLD fibrosis score (NFS) calculated.
  2. Fibroscan® was performed for those with indeterminate or high risk NFS scores. Readings of >8 kPa were considered abnormal.

RESULTS
Total 89 patients screened. Patients were not included if:
  1. Both normal liver function test (LFT) and ultrasound (n=11)
  2. Previously diagnosed liver disease (n=3)
  3. Insufficient data to calculate NFS score (n=43)
• Of the remaining 32 patients (20 T2DM; 12 obese) the majority were males (56%) with a median age 53 [28-75] and BMI 38 [22.1-68] (Table 1).
• Most patients with NAFLD had normal LFT (25/32; 78.2%; p<0.0001) (Figure 1) including median ALT 26 [7-129] and AST 20 [12-88].
• Median NFS was -0.381, with the majority of patients having abnormal scores (84.4%; p<0.0001). The vast majority of those with abnormal NFS had normal LFT (22/32 81.5%; p=0.005).
• Patients with abnormal NFS were invited for Fibroscan and 70.4% (n=19) attended. Median result was 7.05kPa [2.8-26.3] with a non-significant trend to higher readings in obesity vs. T2DM (7.7 vs 6.6 kPa; p=0.29).
• ALT was significantly higher in patients with abnormal Fibroscan (mean 66.9 vs 18.83; p=0.43; 95% CI 33.76-62.32).
• Importantly, 42.9% (3/7) of those with abnormal Fibroscan had completely normal LFT.

CONCLUSION
• Undiagnosed NAFLD was common in this cohort and frequently associated with abnormal NFS and Fibroscan despite normal LFT.
• Results are suggestive that a sizeable population in metabolic services may have significant liver disease.
• Only those with proven steatosis and sufficient data to calculate NFS were included, therefore true prevalence of significant fibrosis is likely greater.
• Although biopsy was not performed, abnormal 2-step non-invasive assessment alone mandates specialist input and active NAFLD screening in these high risk groups should be considered.

CONTACT INFORMATION
Lynsey.Corless@hey.nhs.uk