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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).

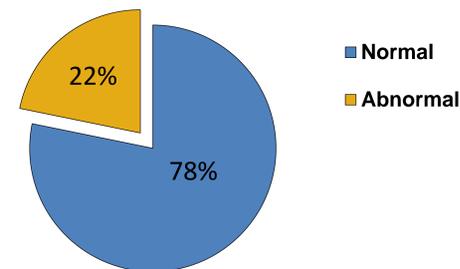


Figure 1. LFT results for study participants with NAFLD

- 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.

	Total	T2DM	Obesity
Participants	32	20	12
Gender (M:F)	18 (56%) M 14 (44%) F	15 (75%) M 5 (25%) F	3 (25%) M 9 (75%) F
Age (yrs) (median; range)	59 28-75	57 35-75	46 28-62
Body Mass Index (median; range)	38.4 22.1-68	33.44 22.1-48	46 37.9-68
NAFLD Fibrosis Score (median; range)	-0.28 -3.9 to 4.4	-0.32 -2.6 to 2.2	-0.22 -3.9 to 4.4

Table 1. Demographic data for study participants

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

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