

Glycaemic Control Is Comparable In Patients With Or Without Significant Hepatic Fibrosis As Assessed By NAFLD Fibrosis Score

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Introduction:

Non-alcohol fatty liver disease (NAFLD) is increasingly recognised in diabetic patients with metabolic syndrome. Patients with poorly controlled diabetes and the metabolic syndrome are likely to have significant liver inflammation leading to fibrosis.

The NAFLD Fibrosis Score (NFS) incorporates six independent indicators of advanced liver fibrosis [age, hyperglycaemia, body mass index (BMI), AST/ALT ratio, platelet count and albumin] and is a validated, non-invasive scoring system that helps identify patients with significant hepatic fibrosis.

Aims:

The aim of this study is to examine the glycaemic control in patients with or without significant hepatic fibrosis as assessed by NFS in the routine diabetic clinic.

Methods:

We retrospectively examined all patients attending the diabetic clinic at St. Luke's General Hospital, Kilkenny, from March to June 2014 and included patients with type 2 diabetes mellitus. Patients with type 1 diabetes mellitus and gestational diabetes were excluded.

Data were obtained from laboratory database and electronic patient record (Cellma). The NAFLD Fibrosis score was calculated and used to categorize each patient into 2 categories:

1. No significant hepatic fibrosis - absence of significant fibrosis (< -1.455) or indeterminate (≤ -1.455 to ≤ 0.675)
2. Presence of significant fibrosis (> 0.675)

Results:

Of the 521 patients screened, only 29.4% (153) of patients with complete laboratory data were studied. In our cohort of 153 patients, the median age was 63 (IQR 56.0–71.5) years and 64.1% (98) of patients were male. The median HbA1c reading was 53 (44–61) mmol/mol.

NAFLD Fibrosis Score (NFS)

Using the NAFLD Fibrosis Score, almost a quarter of our patients (24.2%, $n=37$) have significant fibrosis with a median score of 1.169 (0.898–1.563). The majority of our diabetic patients (66.0%, $n=101$) have an indeterminate score of -0.224 (-0.744–0.302) while only 15 (9.8%) patients have no significant fibrosis with a score of -1.820 (-2.500– -1.550).

Glycaemic control (HbA1c)

In terms of glycaemic control, no significant difference in the mean HbA1c readings was observed in patients with or without significant hepatic fibrosis (55.2 ± 15.3 mmol/mol versus 56.6 ± 17.9 mmol/mol; $p=0.639$) (Figure 1A). The median BMI for patients with significant hepatic fibrosis was 34.8 (30.3–43.2) kg/m^2 while for patients without significant fibrosis (including indeterminate score based on NFS), the median BMI was 30.0 (27.8–34.5) kg/m^2 ($p<0.0001$) (Figure 1B).

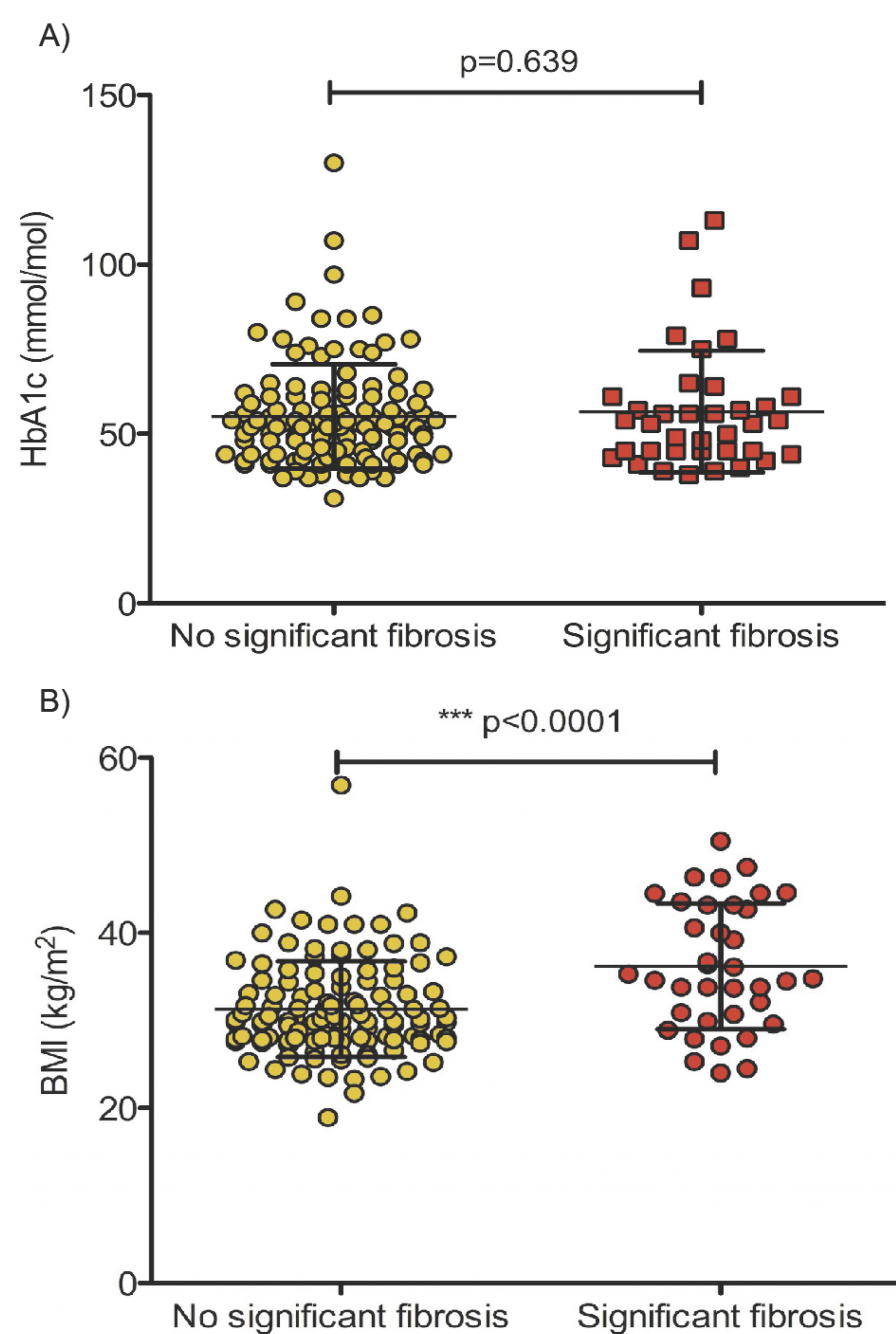


Figure 1. A) HbA1c and B) BMI for patients with or without significant hepatic fibrosis

Conclusion:

In conclusion, we did not observe any significant difference in glycaemic control in patients with or without significant hepatic fibrosis, as assessed by the NAFLD fibrosis score.

