**Prevalence and Cardiovascular Risk Association of Metabolic (dysfunction) Associated Steatotic Liver Disease (MASLD) in Type 2 Diabetes in Ipswich Population**

**Aims:**

This study seeks to illuminate the prevalence of metabolic dysfunction-associated steatotic liver disease (MASLD) and the influence of type 2 diabetes mellitus (T2DM) alongside other metabolic risk factors on hepatic fibrosis, as estimated by the Fibrosis-4 (FIB-4) index and NAFLD (Non-alcoholic fatty liver disease) fibrosis score. The study further explores the association between MASLD and ischemic heart disease (IHD), and evaluates the impact of anti-glycaemic therapies on fibrosis progression.

**Methods:**

A retrospective cohort analysis was conducted using electronic health records of patients who attended the diabetes clinic at Ipswich Hospital between January and December 2024. Individuals with type 1 diabetes or alternative causes of hepatic steatosis were excluded from the study. Linear regression modelling identified predictors of advanced fibrosis (stage 3–4), as estimated by FIB-4 and NAFLD scores. Medication histories were meticulously reviewed and corroborated with primary care data.

**Results**:

Although the study is ongoing, interim data from 160 out of 800 participants are presented. According to the FIB-4 index, 18.76% demonstrated high probability of advanced fibrosis, while 30.66% fell within the indeterminate range. The NAFLD score identified 22.31% at high risk and 53% as indeterminate. Among other metabolic co-morbidities, hypertension exhibited the most robust and statistically significant association with advanced fibrosis (p=0.000). A similarly strong correlation was observed between fibrosis risk and IHD (p=0.000). Notably, patients with T2DM treated with glucagon-like peptide-1 receptor agonists (GLP-1a) and sodium-glucose co-transporter-2 inhibitors (SGLT-2i) showed a markedly reduced risk of fibrosis progression (-20.55% and -25.17%, respectively).

**Conclusion:**

MASLD is likely under-recognised among individuals attending diabetes clinics in the Ipswich catchment. Its strong associations with cardiovascular disease underscore the systemic nature of this condition. The observed protective effects of GLP-1a and SGLT-2i therapies warrant further exploration, particularly in populations beyond those with diabetes.