Table 1: Performance metrics of the combined convolutional neural network

	Malignant strictures (vs. normal/benign findings)	NN (vs normal/other findings)	PP (vs normal/ other findings)	TV (vs normal/ other findings)
Sensitivity	98.9%	96.1%	98.2%	85.7%
Specificity	97.7%	98.9%	94.8%	100%
PPV	99.7%	99.5%	91.7%	100%
NPV	92.8%	91.4%	98.9%	82.5%
Accuracy	98.7%	96.9%	96.1%	91.5%
AUC	0.987	1.000	1.000	1.00

Abbreviations; PPV-positive predictive value; NPV-negative predictive value; AUC-area under the curve.

Non-invasive assessment/treatment and liver related outcomes in NAFLD/ALD

OS025

Non-invasive fibrosis scores as prognostic biomarkers of liver events, cardiovascular events and all-cause mortality in people with obesity and/or type 2 diabetes in the UK: a longitudinal cohort study

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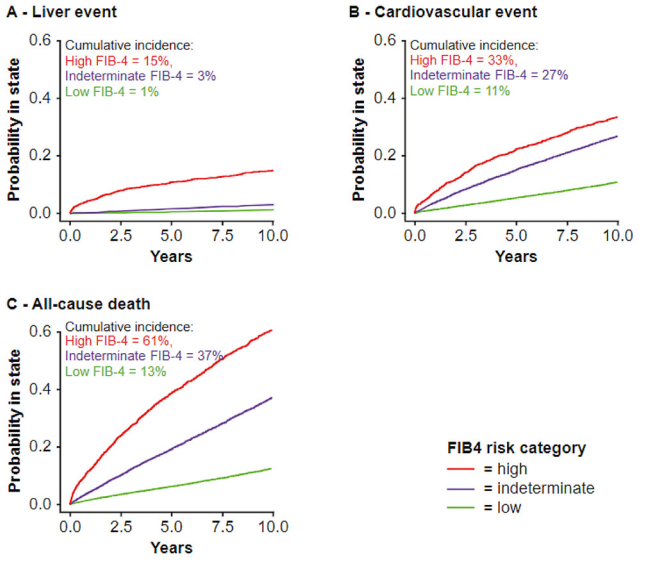
Background and aims: Progression of non-alcoholic steatohepatitis to cirrhosis may lead to life-threatening liver-related complications, increased liver-specific and all-cause mortality and cardiovascular (CV) disease. An important predictor of severe outcomes is biopsy-confirmed liver fibrosis, but biopsies are not scalable outside of specialist practice. This real-world study investigated the prognostic utility of six non-invasive fibrosis scores on clinical outcomes in patients with obesity and/or type 2 diabetes (T2D) seen in routine general practice.

Method: In a longitudinal cohort design, patients ≥18 years with obesity and/or T2D, ≥1 fibrosis score calculable from the UK Clinical Practice Research Datalink (CPRD) after 1 January 2001, no alcohol-related disorders and/or other chronic liver diseases in Hospital Episodes Statistics (HES) and/or no prescriptions of drugs inducing liver disease in CPRD were included. Patients were followed from inclusion date until time of first clinical outcome event (liver-related hospitalisation or death [liver event], CV hospitalisation or death [CV event] or all-cause death) recorded in HES or Office for National Statistics Death Registration, database migration, 10 years' follow-up or 1 January 2020, whichever came first. Fibrosis-4 Index (FIB4), the score of focus, was categorised as low (<1.30), indeterminate (1.30–2.67) or high (>2.67) risk. Cumulative incidence functions were calculated and hazard ratios (HRs) estimated using Cox proportional hazards models with calendar time as underlying timescale.

Results: In total, 44 481 eligible patients (46% male, median age 58.8 years) had measures available for FIB4 calculation. There were 979 liver events, of which ascites (n = 412), cirrhosis (n = 201) and gastro-oesophageal varices (n = 160) were most common. The risk of an incident liver event was highest in the first years after FIB4 measurement in the high FIB4 group and relatively constant over time in the other two groups (Figure). The incidences of a liver event, CV event and death in the high FIB4 group were 15%, 33% and 61%, respectively. Patients in the indeterminate and high FIB4 groups were at greater risk of liver events vs the low-risk group (HR 2.81 [95% confidence interval 2.43, 3.26] and 18.42 [15.67, 21.65], respectively). An increased risk was also seen for CV events and all-cause mortality in these groups. HRs remained higher for the high vs low FIB4 group after adjustment for sex and age. For the other scores, risk of an outcome event was also elevated for patients with a high vs low score.

Cumulative incidence plots for liver events, cardiovascular events and mortality according to Fibrosis-4 Index (FIB4) in the population with obesity and/or type 2 diabetes



Percentage risks are for 10 years' follow-up. Event risks plotted as Aalen-Johansen cumulative incidence functions, with all-cause mortality included as a competing risk factor in plots of liver and cardiovascular events.

Conclusion: In this real-world population of patients with obesity and/or T2D, and no other clinically recognised liver disease, the risk of a clinical event was significantly higher in patients with high vs low FIB4 score, highlighting the prognostic potential of FIB4 (and other non-invasive fibrosis scores) in this population.