The burden and development of clinically significant chronic liver disease in older people with type 2 diabetes: The Edinburgh Type 2 Diabetes Study.

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Introduction
We aimed to describe the burden of chronic liver disease (CLD) amongst community-based older people with type 2 diabetes and to determine whether a wide range of risk factors and biomarkers might assist in discriminating those patients who go on to develop clinically significant CLD.

Methods
939 participants in the Edinburgh Type 2 Diabetes Study underwent extensive liver assessment including liver ultrasound and a wide range of serum/plasma markers. In addition diabetes history, metabolic factors, systemic inflammation and non-invasive markers of steatohepatitis and hepatic fibrosis were measured. Over 6 years cases of clinically significant CLD (cirrhosis, hepatocellular carcinoma) were recorded from linkage to patient records.

Results
During the follow-up period 36 patients had either new or existing CLD: 35 (3.7%) cases of cirrhosis, 9 (1.0%) HCC's and 11 (1.2%) cases of oesophageal varices.
Eight patients were diagnosed before the study commenced, 13 immediately following the liver assessment and 15 more during the follow-up period (incidence rate 2.9/1000 person-years).
Less than half (n=7) of those developing incident CLD were identified by the extensive liver assessment. Abnormal liver enzymes (IRR5.7, 95%CI2.0-16.0, p=0.001) were associated with the development of CLD however the presence of hepatic steatosis was not.
Higher marker levels of systemic inflammation, steatohepatitis and hepatic fibrosis were also associated with developing incident CLD.

Conclusion
Over a 6-year period the incidence of CLD was lower than anticipated but still much higher than the general population. The ability to identify patients at risk of progression of liver disease allows early intervention strategies and guides clinical monitoring and follow-up. Further work looking at a longer time period and analysing rates of liver function decline are in progress to provide optimal identification tools.