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TITLE: Estimation of Serum "True Collagen Type III Formation" (Pro-C3) Levels as a Marker of Non-Alcoholic Steatohepatitis (NASH) in a Prospective Cohort

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ABSTRACT BODY:

Abstract Body: Background Majority of patients with non-alcoholic fatty liver disease (NAFLD) have simple steatosis, while 10-30% have non-alcoholic steatohepatitis (NASH) which has been associated with progressive liver fibrosis and cirrhosis. Although screening high-risk populations for NASH has recently been recommended by the European Association for the Study of Liver (EASL), lack of accurate non-invasive tests for NASH is hindering an effective evaluation of people at risk.

Aim: To investigate the ability of the type III collagen formation neopeptide marker "Pro-C3", (known to be related to severity of disease, its progression and response to treatments in chronic liver disease in detecting and grading NASH in patients with risk factors for NAFLD.

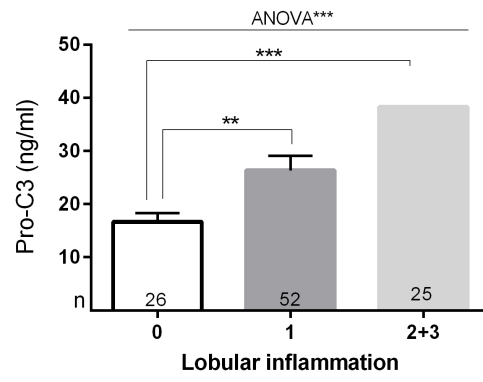
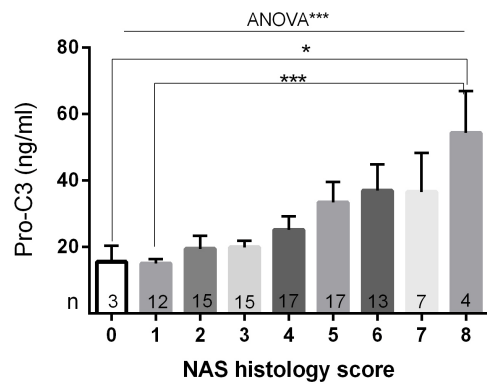
Methods: We enrolled 103 well characterised patients with clinically established NAFLD prospectively. We estimated serum concentrations of Pro-C3 by using competitive ELISA. We correlated Pro-C3 levels with clinical, demographic, imaging parameters and liver histology.

Results: There was a significant correlation with serum Pro-C3 levels and NAFLD activity score (NAS) (Figure 1). Pro-C3 levels were 50-150% higher with hepatocyte ballooning score 1 or 2-3 compared to 0 ($p > 0.001$) and 58-130% higher with a lobular inflammation score of 1 or 2-3 compared to 0 ($p < 0.01-0.001$; Figure 2), and 78-115% higher with liver fibrosis scores 2 or 3-4 compared to 0 ($p < 0.01-0.001$). Furthermore, it was shown that Pro-C3 was correlated to percentage of fibrosis and fat ($p = 0.01-0.0007$).

Conclusions: In conclusion, elevated serum Pro-C3 was significantly associated with key components of NASH correlating well with NAS and degree of liver fibrosis. Pro-C3 was a potential marker of NASH for the monitoring of disease progression.

(no table selected)

Figure 1



Co-Author Disclosure Status

The following authors have completed their AASLD 2016 disclosure:: Diana Leeming: Disclosure completed | Jane Grove: Disclosure completed | Philip Kaye: No Answer. | Caroline Hoad: No Answer. | Susan Francis: No Answer. | Mette Nielsen: Disclosure completed | Morten Karsdal: No Answer. | Indra Neil Guha: No Answer. | Guruprasad Aithal: Disclosure completed