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# Effect of ursodeoxycholic (UDCA) acid on fibrogenic markers in alcoholic liver disease in man

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**Background:** The fibrogenic markers N-terminal procollagen III peptide (PIIINP), hyaluronic acid and tissue inhibitor metalloproteinase-1 (TIMP-1) are important markers of liver fibrogenesis that can be measured in the blood to assess liver fibrosis. UDCA is a relatively hydrophilic bile acid that has been shown to be beneficial in cholestatic liver diseases. Alcoholic liver disease (ALD) has many cholestatic features and a beneficial effect for UDCA is therefore hypothesized.

**Aim:** We aimed to assess the effect of 6 months UDCA oral therapy (10 mg/kg, n=24, Childs-Pugh score 21A, 3B) or placebo (n=24, Childs-Pugh score 21A, 3B) on the classic liver function tests and fibrogenic markers in biopsy confirmed ALD patients.

**Materials & Methods:** Carbohydrate deficient transferrin to assess alcohol intake (>6% considered heavy drinking), and % UDCA enrichment in total serum bile acids were assessed in serum of treated and control subjects using gas chromatography/ mass spectroscopy. Liver enzymes were analyzed using colorimetric methods and ELISA technique was used to assess fibrogenic markers.

**Results:** We observed a statistically significant reduction in GT (20% reduction) and ALT (10% reduction) from entry values, $p<0.05$ for both enzymes with UDCA therapy, while ALP and bilirubin were not significantly changed in UDCA or control subjects. Mean PIIIP peptide was significantly reduced from 1.24 (±0.13) to 0.71 (± 0.03) ug/ml, mean hyaluronic acid was also reduced from 160 (±13.2) to 132 (±11.1) ng/ml, and mean TIMP-1 was reduced from 826 (±81.3) to 748 (±77.1) U/ml, $p<0.05$ in UDCA treated individuals but no significant change could be found in placebo group.

**Conclusions:** These preliminary results provide evidence that UDCA treatment that enrich serum with the hydrophilic bile acid (>20%) lowers the level of fibrosis markers PIIIP, hyaluronic acid and TIMP-1 and improve classic liver function tests. A larger clinical trial is needed for further exploration of UDCA efficacy in the treatment of ALD, and how to optimize the selected set of the fibrogenic markers in evaluating prognosis and therapeutic response.

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**Notes:**