



# The Osteopontin Level in Liver, Adipose Tissue and Serum Is Correlated with Fibrosis in Patients with Alcoholic Liver Disease

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## Résumé en anglais

BackgroundOsteopontin (OPN) plays an important role in the progression of chronic liver diseases. We aimed to quantify the liver, adipose tissue and serum levels of OPN in heavy alcohol drinkers and to compare them with the histological severity of hepatic inflammation and fibrosis.Methodology/Principal FindingsOPN was evaluated in the serum of a retrospective and prospective group of 109 and 95 heavy alcohol drinkers, respectively, in the liver of 34 patients from the retrospective group, and in the liver and adipose tissue from an additional group of 38 heavy alcohol drinkers. Serum levels of OPN increased slightly with hepatic inflammation and progressively with the severity of hepatic fibrosis. Hepatic OPN expression correlated with hepatic inflammation, fibrosis, TGF $\beta$  expression, neutrophils accumulation and with the serum OPN level. Interestingly, adipose tissue OPN expression also correlated with hepatic fibrosis even after 7 days of alcohol abstinence. The elevated serum OPN level was an independent risk factor in estimating significant ( $F \geq 2$ ) fibrosis in a model combining alkaline phosphatase, albumin, hemoglobin, OPN and FibroMeter® levels. OPN had an area under the receiving operator curve that estimated significant fibrosis of 0.89 and 0.88 in the retrospective and prospective groups, respectively. OPN, Hyaluronate (AUROC: 0.88), total Cytokeratin 18 (AUROC: 0.83) and FibroMeter® (AUROC: 0.90) estimated significance to the same extent in the retrospective group. Finally, the serum OPN levels also correlated with hepatic fibrosis and estimated significant ( $F \geq 2$ ) fibrosis in 86 patients with chronic hepatitis C, which suggested that its elevated level could be a general response to chronic liver injury.Conclusion/SignificanceOPN increased in the liver, adipose tissue and serum with liver fibrosis in alcoholic patients. Further, OPN is a new relevant biomarker for significant liver fibrosis. OPN could thus be an important actor in the pathogenesis of this chronic liver disease.

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