

## Liver vitamin D receptor, CYP2R1 and CYP27A1 expression related to progression of metabolic and viral chronic liver damage

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**Background and aim:** Low serum 25(OH)vitamin D3 levels were associated with the presence and prognosis of liver diseases [1]. The biological effects of 1,25(OH)<sub>2</sub> vitamin D3 are mediated by the vitamin D receptor (VDR) and VDR has been widely detected in liver, but its expression in the course of liver disease has never been investigated [2]. We aimed to evaluate the hepatic expression of VDR and vitamin D 25-hydroxylases in patients with chronic hepatitis C (CHC) or non-alcoholic steatohepatitis (NASH) and its relationship with liver histology and serum 25(OH) vitamin D3 levels.

**Methods:** Patients affected by CHC or NASH who had undergone liver biopsy and subjects without liver disease were included. Expression of VDR, CYP2R1 and CYP27A1 was evaluated by immunohistochemistry.

**Results:** In CHC subjects, fibrosis stage was associated with low hepatic CYP27A1 expression, whereas in patients with VDR-negative inflammatory cells and low VDR expression on hepatocytes, the portal inflammation was significantly higher ( $p < 0.009$  and  $p < 0.03$ ). In NASH patients, VDR expression on cholangiocytes was inversely correlated with steatosis severity ( $p < 0.02$ ), lobular inflammation ( $p < 0.01$ ) and NAS score ( $p < 0.03$ ).

**Conclusions:** The liver of patients with viral and metabolic chronic liver disease expresses VDR in a manner inversely proportional to the severity of histological lesions and a role of the vitamin D/VDR system in the progression of chronic liver damage is suggested.

### References

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