

## **Type II ground-glass hepatocytes as a marker of hepatocellular carcinoma in chronic hepatitis B.**

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### **Source**

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### **Abstract**

Ground-glass hepatocytes are seen in chronic hepatitis B virus (HBV) infection and are known to harbor pre-S mutants, which are implicated in the pathogenesis of hepatocellular carcinoma (HCC). However, the association between ground-glass hepatocytes and HCC has yet to be clearly elucidated. The aim in the present study was to investigate the association of ground-glass hepatocytes with (1) the histologic characteristics of HBV-related HCC and (2) the grade of inflammation, stage of fibrosis, serologic markers of HBV infection, HBV viral load, and  $\alpha$ -fetoprotein levels. We evaluated 45 hepatectomy specimens from chronic HBV-infected patients: 25 with HCC and 20 without. In comparison with those without HCC, cases with HCC had a significantly higher prevalence of type II ground-glass hepatocytes (84% versus 55%,  $P = .0488$ ), demonstrating a geographically clustered pattern (84% versus 45%,  $P = .0102$ ) and exceeding type I in the individual samples (84% versus 35%,  $P = .0005$ ). Type II ground-glass hepatocytes also had a statistically significant association with higher stages of fibrosis, being present in 21 cases (66%) with Ishak fibrosis stages 3 to 6 as compared with only 4 cases (31%) without type II ground-glass hepatocytes ( $P = .0176$ ). In conclusion, type II ground-glass hepatocytes are more likely to be present in cases of HCC, growing in a clustered pattern, and are also associated with advanced fibrosis in chronic HBV infection. Our data suggest that a growth advantage or clonal proliferation of hepatocytes with mutant hepatitis B surface antigen may play a role in the pathogenesis of HBV-related HCC with clinical relevance.