

Prognostic role of CA 19-9 in patients with hepatocellular carcinoma

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Background/Aims: Serum carbohydrate antigen 19-9 (CA 19-9) is a commonly used tumor marker for pancreatic and biliary cancer. However, it was recently suggested that CA 19-9 level could be elevated in hepatocellular carcinoma (HCC) patients with aggressive phenotype or stemness features. This study aimed to evaluate the significance and prognostic role of serum CA 19-9 in patients diagnosed with HCC.

Methods: This study enrolled 534 consecutive patients newly diagnosed with HCC and with serum CA 19-9 values at baseline between 2008 and 2017. Patients with combined hepatocellular-cholangiocarcinoma and other malignancies at baseline were excluded.

Results: During a median follow-up of 27.5 months (range 0.1-141.1), 178 patients (33.6%) survived and 180 (34.0%) expired. Baseline CA 19-9 level was within normal range in 410 patients (77.5%) and elevated (CA 19-9 > 37 U/mL) in 119 (22.5%). Patients with elevated CA 19-9 had a larger tumor size, a higher proportion of multiple tumors and portal vein tumor thrombosis than patients with normal CA 19-9 (all P values were < 0.05), and therefore presented with more advanced tumor characteristics. The cumulative overall survival (OS) in patients with elevated CA 19-9 was significantly lower than that in patients with normal CA 19-9 ($P < 0.001$). In the multivariate analysis, elevated CA 19-9 was an independent prognostic factor for OS (HR, 1.52; 95% CI, 1.06-2.16; $P = 0.021$). Subgroup analysis revealed that elevated CA 19-9 was associated with poor prognosis across all BCLC stages. The validity of CA 19-9 increased particularly in patients with CTP class A or AFP > 100 ng/mL.

Conclusions: Elevated CA 19-9 level is significantly associated with poor prognosis and advanced tumor characteristics in HCC patients. The CA 19-9 test is a simple adjuvant method that can be performed to predict the prognosis of HCC patients.