

Risk factors for hepatocellular carcinoma: a case-control study in Belgrade (Serbia)

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ABSTRACT

Aims and background. The objective of this case-control study was to test the existing hypotheses about factors related to the occurrence of hepatocellular carcinoma in the population of Belgrade (Serbia).

Methods and study design. The investigation was conducted between 2004 and 2007 and consisted of 45 newly diagnosed, histologically confirmed hepatocellular carcinoma patients and 90 individually gender- and age-matched hospital controls. Conditional univariate and multivariate logistic regression analyses were applied.

Results. A highly statistically significant association ($P = 0.001$) was demonstrated between hepatocellular carcinoma and HBsAg positivity and the presence of hepatitis C virus antibodies. Diabetes mellitus was significantly ($P = 0.018$) associated with an increased risk of hepatocellular carcinoma. A statistically significant inverse association was shown between low parity and the risk of hepatocellular carcinoma ($P = 0.033$). The risk increased significantly with a longer history of cigarette smoking ($P = 0.044$), as well as the daily consumption of hard liquor ($P = 0.049$). A weekly intake of fish ($P = 0.003$) and yogurt ($P = 0.003$) and daily intake of boiled vegetables ($P = 0.001$) were reported more frequently by controls than hepatocellular carcinoma cases. In the current study, a high intake of salty food also significantly increased the risk of hepatocellular carcinoma ($P = 0.027$). Based on multivariate analysis, the presence of hepatitis C virus antibodies (OR = 24.6, $P = 0.001$) and duration of smoking ≥ 25 years (OR = 3.8, $P = 0.020$) were significantly related to hepatocellular carcinoma, whereas the daily consumption of boiled vegetables (OR = 0.1, $P = 0.011$) was inversely associated with the risk of hepatocellular carcinoma.

Conclusions. The findings obtained in the current study support the hypotheses that non-viral factors, such as lifestyle factors, reproductive factors, and a history of diabetes, might be involved in the etiology of hepatocellular carcinoma. Free full text available at www.tumorionline.it

Key words: case-control study, hepatocellular carcinoma, risk factors.

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