Scientific research process

Dec 31, 2016

Retrospective Cohort Study

Impact of smoking habit on surgical outcomes in non-B non-C patients with curative resection for hepatocellular carcinoma

Keita Kai, Hiroki Koga, Shinichi Aishima, Atsushi Kawaguchi, Koutaro Yamaji, Takao Ide, Junji Ueda, Hirokazu Noshiro

Correspondence to: Dr. Keita Kai, Department of Pathology, Saga University Hospital, Nabeshima 5-1-1, Saga City, Saga 849-8501, Japan. kaikeit@cc.saga-u.ac.jp

1 What did this study explore?

This study retrospectively analyzed the correlation between smoking status and surgical outcomes in consecutive cases of 83 patients with NBNC-HCC and also investigated the patients' clinicopathological characteristics according to smoking status.

2 How did the authors perform all experiments?

We collected information about patient's outcomes and possibly carcinogenic factors such

as alcohol abuse, diabetes mellitus, obesity and smoking habit from medical records. Smoking habits were subcategorized as never, ex- and current smoker at the time of surgery. The diagnosis of non-alcoholic steatohepatitis was based on both clinical information and pathological confirmation.

3 How did the authors process all experimental data?

All statistical analyses were supervised by the statistician co-author (A.K.). The comparisons of pairs of groups were performed using Student's t-test, the $\chi2$ test and Fisher's exact test, as appropriate. Disease-free survival was determined as the length of time after surgery that the patient survived without new lesions of HCC. Overall survival was determined from the time of surgery to the time of death or the most recent follow-up. Disease-specific survival was determined from the time of surgery to the time of cancer-related death or most recent follow-up. Cox proportional hazards modeling was applied for uni- and multivariate analyses. Postoperative survival curves were calculated using the Kaplan-Meier method. Differences in survival curves were compared using the log-rank test. Values of $p<0.05$ were considered significant.

4 How did the authors deal with the pre-study hypothesis?

Emerging epidemiologic data suggest that cigarette smoking may increase the risk of developing HCC. However, no previous study has addressed the impact of smoking habit on surgical outcomes or clinicopathological characteristics according to smoking habits in patients with NBNC-HCC.

5 What are the novel findings of this study?

The novel findings of this study are (1) Current smoking habit at the time of surgical treatment is a risk factor for poor long-term survival in NBNC-HCC patients, and (2) Current smokers tend to have multiple HCCs at a younger age than other patients.