

中文題目：C 型肝炎病毒感染對於頭頸鱗狀上皮細胞癌病患存活之分析

英文題目：Survival analysis hepatitis C virus infection in patients of squamous cell carcinoma of head and neck

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**Backgrounds:** Hepatitis C virus (HCV) is a crucial world public health problem and a leading cause of morbidity and death. The incidence of HCV infection was about 2.8% in the global population and about 4% in the Taiwan population. HCV is also a known carcinogenic virus, and HCV-infected patients have the increased risks of hepatocellular carcinoma, pancreas, lung, renal, rectal cancers, and non-Hodgkin lymphoma. Head and neck squamous cell carcinoma (HNSCC) is the sixth most common type of cancer worldwide. The known risk factors include tobacco, alcohol consumption, and viral infections such as human papillomavirus and Epstein-Barr virus. In one case-control study, HCV seems to be associated with an increased risk of HNSCC. Therefore, we conducted a retrospective case-control study to evaluate the survival impact of HCV in HNSCC patients.

**Methods:** We retrospectively reviewed the clinical data of the cancer registry database in Taichung Veterans General Hospital from January 2007 to Dec 2012. Patients were eligible for enrolment if aged 18 years or older; histologically confirmed squamous cell carcinoma of the oral cavity, oropharynx, hypopharynx, or larynx. Patients diagnosed with lymphoma, nasopharyngeal carcinoma, and salivary gland cancer were excluded due to different treatment approaches than HNSCC. The patients with hepatitis C antibody (Anti-HCV) reactive were regarded as having HCV infection. Three controls were selected as a control group for each HCV-infected case using a frequency matching method (gender and age). Patient characteristics were obtained, including age, sex, history of betel quid chewing, cigarette smoking and alcohol drinking, comorbidities, primary tumor site, primary tumor differentiation, initial stages denoted by the American Joint Committee on Cancer (AJCC) staging system (seventh edition), treatment approaches and baseline hepatic characteristic testing. The survival analysis was measured from diagnosis to death from any cause and did not exceed five years.

**Results:** In total, we enrolled 1275 patients with diagnoses of HNSCC in this retrospective study. The details of the patients' clinical characteristics are listed in Table 1. Of those patients, 93 HCV-infected patients were identified, and 279 HCV-uninfected patients were selected as a control group. Those patients were predominantly male. The tumor mostly originated from the oral cavity, moderately differentiated and initial stage IV disease. The HCV-infected group had more oral cavity cancer, early initial stage, excisional surgical history, and initial cirrhosis. The baseline alanine aminotransferase (ALT), aspartate aminotransferase (AST), total bilirubin (T Bil), and international normalized ratio (INR) showed statistical difference but no clinical significance in the two groups. Using the Kaplan-Meier method, we found significantly better five-year overall survival (OS) in the HCV-infected group compared to the HCV-non-infected group. (Hazard ratio, 0.67; 95% confidence interval, 0.48-0.94; p= 0.022). Nevertheless, the five-year OS in different stages did not reveal statistically significant differences between the two groups. We determined the prognostic predictor variables using multivariable Cox regression analysis. We found HCV

infection was not associated with OS (hazard ratio, 0.94; 95% confidence interval, 0.64-1.39,  $p=0.763$ ). Elderly (age over 65-year-old), stage IV disease, and initial creatinine had a significant association with OS.