

RESEARCH ARTICLE

Validity of the Age-Adjusted Charlson Comorbidity Index on Clinical Outcomes for Patients with Nasopharyngeal Cancer Post Radiation Treatment: A 5-Year Nationwide Cohort Study

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Abstract

Purpose

To characterize the impact of comorbidity on survival outcomes for patients with nasopharyngeal carcinoma (NPC) post radiotherapy (RT).

Methods

A total of 4095 patients with NPC treated by RT or RT plus chemotherapy (CT) in the period from 2007 to 2011 were included through Taiwan's National Health Insurance Research Database. Information on comorbidity present prior to the NPC diagnosis was obtained and adapted to the Charlson Comorbidity Index (CCI), Age-Adjusted Charlson Comorbidity Index (ACCI) and a revised head and neck comorbidity index (HN-CCI). The prevalence of comorbidity and the influence on survival were calculated and analyzed.

Results

Most of the patients (75%) were male (age 51±13 years) and 2470 of them (60%) had at least one comorbid condition. The most common comorbid condition was diabetes mellitus. According to these three different comorbidity index (CCI, ACCI and HN-CCI), higher scores were associated with worse overall survival ($P < 0.001$). The Receiver Operating Characteristic (ROC) curve was used to assess the discriminating ability of CCI, AACI and HN-CCI scores and it demonstrated the predictive ability for mortality with the ACCI (0.693, 95% CI