gastrointestinal tumours, non-colorectal

SECONDARY PRIMARY MALIGNANCY RISK AMONG PATIENTS WITH GASTRIC CANCER: A NATIONWIDE POPULATION-BASED STUDY IN TAIWAN

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Aim: The mortality of gastric cancer, the fourth most common cancer in the population worldwide, has shown a decreasing trend in the past decades. With the improvement of gastric cancer survival, it is worthwhile to conduct a nationwide population-based study investigating the risk of secondary primary malignancy (SPM) among patients with gastric cancer.

Methods: Newly diagnosed gastric cancer patients between January 1, 1997 and December 31, 2011 were recruited from the Taiwan National Health Insurance database. Those who had antecedent malignancies or gastrointestinal stromal tumor were excluded. Standardized incidence ratios (SIRs) of SPMs were calculated. Risk factors for cancer development were analyzed by Cox proportional hazards models. Effects of treatments for gastric cancer were treated as time-dependent variables.

Results: During the 15-year study period, a total of 47,729 gastric cancer patients were recruited. Overall, 2,110 SPMs developed with a follow-up of 137,798 person-years. The SIR for all cancers was 1.46 (95% CI, 1.40–1.52). The SIRs of different follow-up periods were 1.21 (95% CI, 1.12–1.30), 1.41 (95% CI, 1.29–1.54), and 1.43 (95% CI, 1.21–1.69) at 1–5 years, 5–10 years, and >10 years, respectively. After exclusion of SPM developed within 1 year, the SIRs of non-Hodgkin’s lymphoma (5.56; 95% CI, 4.68–6.55), ovarian (2.89; 95% CI, 1.71–4.57), esophageal (2.16; 95% CI, 1.61–2.84), bones and soft tissue (1.95; 95% CI, 1.11–3.16), bladder (1.47; 95% CI, 1.16–1.84), kidney (1.44; 95% CI, 1.06–1.93), colorectal (1.37; 95% CI, 1.21–1.54), and head and neck (1.34; 95% CI, 1.09–1.63) cancers were significantly higher in gastric cancer survivors. Multivariate analysis showed that age ≥70 years [hazard ratio (HR) 1.19], male gender (HR 1.37), diabetes mellitus (HR 1.30), chronic obstructive pulmonary disease (HR 1.17) and liver cirrhosis (HR 1.94) were independent risk factors. According to the treatments, radiotherapy (HR 1.24) and chemotherapy (HR 1.87) were independent risk factors, but surgery (HR 0.67) was not.

Conclusions: Patients with gastric cancer are at increased risk of developing SPM. Close and longer surveillance for patients with risk factors should be considered.

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