

Serum pepsinogens and *Helicobacter pylori* are not associated with esophageal squamous cell carcinoma in a high-risk area in China

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ABSTRACT

Aims and background. The role of serum pepsinogen level and *Helicobacter pylori* infection in esophageal carcinoma remains controversial. It may be a risk or protective factor, or without association with esophageal carcinoma. We prospectively examined associations between serum pepsinogen status, *H pylori* infection and the risk of esophageal squamous cell carcinoma in the Chinese population.

Methods. In the present study, 1501 subjects from a community-based general population of Northern China were included. The incidence of esophageal carcinoma among the subjects was registered during a 15-year follow-up period by annual home visit, and the risks of low serum pepsinogen level and *H pylori* infection in the development of ESCC were evaluated using logistic regression.

Results. The total accumulated incidence of ESCC in the cohort was 666/100,000 during the 15-year follow-up. Notably, all the cases were verified to be ESCC. Logistic regression analysis showed that age ≥ 60 (OR = 9.67; 95% CI, 2.797-33.423) was the only risk factor for esophageal squamous cell carcinoma in the population. There was no significant association between sex, *H pylori* infection, pepsinogen level (PG I ≤ 70 ng/ml alone, PG I/II ratio ≤ 3 alone, or PG I ≤ 70 ng/ml and PG I/II ratio ≤ 3) and esophageal squamous cell carcinoma.

Conclusions. In this prospective study, neither *H pylori* infection nor abnormal pepsinogen status had a predictive role for the development of esophageal squamous cell carcinoma in the rural population of China.

Key words: esophageal carcinoma, *Helicobacter pylori*, pepsinogens, gastric atrophy.

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