Comparative Analysis of Clinicopathological Characteristics and Prognosis of Esophageal Adenocarcinoma Patients in High and Low Incidence Areas of Esophageal Cancer

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Abstract

Objective To comprehensively compare and analyze the clinical and pathological characteristics, as well as prognostic factors, of patients with esophageal adenocarcinoma in high and low incidence areas of esophageal cancer, in order to provide reference for the prevention and treatment of esophageal adenocarcinoma in high and low incidence areas. *Methods* 6564 patients with esophageal adenocarcinoma were selected from the clinical information database of 700000 patients with esophageal cancer in the State Key Laboratory for Prevention and Treatment of Esophageal Cancer jointly built by the provincial and ministerial departments of the First Affiliated Hospital of Zhengzhou University. They were divided into high incidence areas and low incidence areas according to their source regions. Chi square test was used to compare the distribution of different clinicopathological characteristics between the two groups, Kaplan Meier survival analysis was used to compare the survival differences between the two groups, and Cox regression analysis was used to estimate the relationship between the clinicopathological characteristics and the total mortality of the two groups. *Results* The proportion of male patients, those with a positive smoking history, those with a positive drinking history, and those with lower chest tumors in the high incidence area was lower than that in the low incidence area. The proportion of patients with a positive family history was significantly higher than that in the low incidence area, and the proportion of adenosquamous cell carcinoma and squamous cell carcinoma was also higher than that in the low incidence area. Patients in the high incidence area tended to have a later pathological stage ($P < 0.05$). There is no significant difference in the distribution of age and differentiation degree between patients in high and low incidence areas. Overall, there was no significant difference in survival between patients with esophageal adenocarcinoma in high and low incidence areas. Subgroup analysis by pathological type showed that the survival of patients with simple esophageal adenocarcinoma in high incidence areas was significantly better than that in patients with simple esophageal adenocarcinoma in low incidence areas ($P = 0.009$, HR=1.14，95%CI: 1.03-1.25). For patients in high and low incidence areas, gender, age, differentiation degree, and pathological stage are independent prognostic factors ($P < 0.05$). In addition, the prognosis of patients in low incidence areas is also affected by alcohol consumption ($P < 0.05$). *Conclusion* There is a significant difference in the distribution of clinical and pathological characteristics between patients with esophageal adenocarcinoma in high and low incidence areas. Patients with esophageal simple adenocarcinoma in high incidence

areas have better survival than those in low incidence areas, and the two groups of patients have similar prognostic factors.

Keywords

High and Low Incidence Areas, Esophageal Adenocarcinoma, Clinicopathological Characteristics, Prognosis, Comparative Analysis