Projects proposal

Objective

The objective of this study was to identify potential biomarkers in early stage patients with esophageal squamous cell carcinoma.

Resource available

High expressions of candidate proteins PI3K-p85α, EGFR and p53 were detected in 57.1% (303/531), 36.6% (185/506) and 43.0% (232/539) of ESCC tumors, but in 2.7% (10/368), 3.5% (13/372) and 2.9% (11/382) of the adjacent normal tissues. We showed that the combination of seven proteins, including p53, EGFR, PI3K-p85α and another four proteins, could detect over 90% of stage I ESCCs with a specificity of 100%, suggesting that this 7-protein panel may be of clinical value for early diagnosis.

Significant correlations were found between high expression of p53, PI3K-p85α, EGFR and poor prognosis (P = 0.00426, 0.00111, 0.00001). Applying these three proteins as an IHC panel could divide patients into different subgroups (P < 0.000001). Multivariable cox regression analysis indicated that the three-protein panel was an independent prognostic factor with very high statistical significance (HR = 2.090, 95% CI: 1.621-2.696, P = 0.00000001). Especially, high expression of these three proteins was also significantly associated with poor prognosis of the early stage (stage I/II) patients (P = 0.00654, 0.00432, 0.00118). These data suggest that the three-protein panel of p53, PI3K-p85α and EGFR is an important candidate biomarker for the prognosis of ESCC patients, and for the early stage patients.

Contact Person

Jia-Jie Hao, Ph.D, Assistant Professor
State Key Laboratory of Molecular Oncology
Cancer Institute/Hospital, Chinese Academy of Medical Sciences & Peking Union Medical College, 17 South Panjiayuan Lane, Beijing 100021, China
E-mail: hjj8173@126.com
Tel: 86-10-8778-8425