Expression and significance of molecular biomarkers in esophageal carcinoma in different nationalities patients in Xinjiang

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ABSTRACT. This study aimed to explore some useful biomarkers to focus on the diagnosis and therapy response judgment in esophageal squamous cell carcinoma in Xinjiang. We used enzyme-linked immunosorbent method and immunohistochemistry to detect the expression of VEGF, EGFR, ES, HER-2, and NF-κBp in the serum and tissue with esophageal squamous cell carcinoma, and to analyze the relationship between biomarkers and clinical pathology and curative effects. Our findings were as follows: 1. The serum levels of VEGF and ES in Han patients were obviously higher than those of Uygur and Kazakh patients (P < 0.05). The VEGF positive rate in patients at a later clinical stage was higher than that of the patients at an earlier clinical stage (stages II-IV were 14.29, 50.00, and 50.00%, respectively, P < 0.05), meanwhile it was higher than
that of patients without lymph node metastases (78.13 vs 25.00%, P < 0.05). The curative effective rate of patients with negative expression of VEGF was higher than that of patients with positive expression of VEGF (74.67 vs 41.40%, P < 0.05). 2. The expression of EGFR protein in male patients was higher than that of female patients (69.77 vs 35.29%, P < 0.05). Before treatment, the serum EGFR level in patients was higher than the normal group (P < 0.05). 3. The serum ES level in patients before and after treatment was significantly higher than in the normal group (P < 0.05). 4. The HER-2 positive rate in higher differentiated tumor tissue was lower than that in lower differentiated tumor tissue. (The positive rate of I, II, III grade was 70.00, 30.00, and 20.00%, respectively, P < 0.05). 5. The NF-κB positive rate in patients with lymph node metastases was higher than that of patients without lymph node metastases (65.63 vs 39.27%, P < 0.05), meanwhile median survival in the latter group was higher than that of the former group (P < 0.05). Our data suggest that the expression of VEGF and ES were different in Uygur, Han, and Kazakh patients in Xinjiang. The combined detection of tumor markers in serum and tissue is of direct significance for tumor therapy.

Key words: Esophageal cancer; Biomarkers; Curative effect; National difference