Short Reports

RELATIONSHIP BETWEEN THE PCNA EXPRESSION AND CT IMAGING ON PARAPHARYNGEAL SPACE INVOLVED IN NPC

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Proliferating cell nuclear antigen (PCNA) is used widely to assess cell proliferation status. It is proved that PCNA is related to the tumor pathological grade, clinical staging, node metastases and prognosis. To study how the prognosis is affected by the extent of parapharyngeal space involved in nasopharyngeal carcinoma (NPC) at molecular level, we discussed the relation between PCNA and the parapharyngeal space involved of nasopharyngeal carcinoma.

MATERIALS AND METHODS

Clinical Data: 61 patients with NPC were testified by pathology in our hospital. Sex: male 44 cases, female 17 cases. Average age: 45.31 ± 9.13. Pathology: poorly differentiated squamous cell cancer 61 cases. There were parapharyngeal space involved in every CT imaging. Among them, the site in styloglossal anterior space were 28 cases, the site in styloglossal posterior space were 33 cases.

The Monitor Method of immunohistochemistry:

Drug kit was provided by Fuzhou Mai-Xing Corporation. PCNA was detected by S-P method. The positive criteria: When there is brown and yellow grain in tumor cells it is positive. The positive area was confirmed by the percent of positive cell in all of cells. <25% is +, 25%–50% is ++, >50% is +++. When there is not any positive cell or few positive cells it is negative (necrotic area is not considered). + is low express, ++ and +++ are high express.

RESULTS

The positive rate of PCNA is 55.74% (34/61).

The result of the parapharyngeal space involved: The positive rate of PCNA in styloglossal anterior space involved is 46.43% (13/28). That in styloglossal posterior space involved 63.63% (21/33) ($P>0.05$).

The relation between the expression level of PCNA and CT imaging of styloglossal space involved.

It is shown as the following Table 1:

Table 1. PCNA expression and CT imaging in NPC

CT imaging	Low expression	High expression	*P* value
Styloglossal anterior space involved	61.54% (8/13)	38.46% (5/13)	<0.05
Styloglossal posterior space involved	33.33% (7/21)	66.67% (14/21)	

DISCUSSION

Based on the development of pathological method, we can explain and research on some problem of clinic and imaging in molecule level. Someone investigated the relation between cerbB-2, bcl-2 expression level and imaging findings in lung squamous cell carcinoma and adenocarcinoma. At gene level it proved that cancer gene cerbB-2 and bcl-2 expression had an important action on the imaging findings of lung squamous cell carcinoma and adenocarcinoma. We also tried to analyse the relation between PCNA and CT imaging in NPC.

PCNA is a regulative protein of cell cycle. Its content is changed in different proliferating cycle and reach top at S phase. There is an obvious relation between the expression and synthesis of PCNA and cell proliferating cycle. Now it had been proved that PCNA

was related to tumor pathological grade, staging, lymphnode and organ metastases and prognosis. On the study of CT imaging in NPC, we found that the extent of tumor involving styloglossal posterior space was related to neck metastases. The paper showed PCNA positive rate was 55.74% in NPC. When tumor involved styloglossal anterior or posterior space the positive rate of PCNA is 46.43% and 63.63% respectively. We continued to analyse PCNA expression level and found the high expression rate of PCNA in styloglossal posterior space involved is higher than that in styloglossal anterior space involved. It is considered that when tumor involved styloglossal posterior space in CT image in NPC the extent of cell proliferation is higher and there are more chance to metastases. This view is the same as clinical result.