Expression and significance of Caspase-8 in non-small cell lung cancer(NSCLC)

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Abstract: Objective: RCAS1, Caspase-8 expression in non-small cell lung cancer and its significance. **Methods**: the soluble RCAS1 in our hospital between February 2009 to February 2010, included 40 patients with non-small cell lung cancer, the expression of caspase-8 protein taken immunohistochemistry method were measured, and select the normal lung tissue RCAS1 Caspase-8 protein expression compared. **Results**: There are two comparative analysis, the positive expression rate of tumor patients RCAS1 RCAS1 positive expression rate was significantly higher than the two sets of data was statistically significant (P <0.05); Oncology Group of Caspase-8 positive the expression rate Caspase-8 positive expression rate was significantly lower than the control group data in two groups was statistically significant (P <0.05). Correlation analysis of protein expression in non-small cell lung cancer, the soluble RCAS1 Caspase-8 expression in non-small cell lung cancer negative correlation (r = -0.121, P <0.05). **Conclusion**: the soluble RCAS1 Caspase-8 protein in non-small cell lung cancer in the abnormal expression of the disease can be used as an important diagnostic marker, has important applications in clinical.
[Zhenfeng Zong, Jun Yuan, Bo Yang, Fengli Sun, Mingming Ren. **Expression and significance of Caspase-8 in non-small cell lung cancer (NSCLC).** *Life Sci J* 2013:10(1):3165-3167]. (ISSN: 1097-8135). http://www.lifesciencesite.com. 396

Key words: non-small cell lung cancer; The RCAS1; Caspase-8; protein expression

Introduction

Non-small cell lung cancer is one of the more common clinical disease, seriously affect the health of the patient's body. Data [1] display the RCAS1 protein and Caspase-8 protein in non-small cell lung cancer patients with abnormal expression, and its expression is directly linked to the patient's condition. However, the treatment of patients with RCAS1 protein Caspase-8 protein expression in non-small cell lung cancer, but from the impact of the disease [2]. RCAS1 protein in patients with non-small cell lung cancer and Caspase-8 protein expression, our hospital between February 2009 to February 2010, 40 patients with non-small cell lung cancer patients included in the RCAS1 protein and Caspase -8 protein expression in-depth discussion, and select the soluble RCAS1 in normal lung tissue, compared the expression of Caspase-8 protein, specific analysis is as follows:

1. Materials and Methods

1.1 clinical data

40 cases of non-small cell lung cancer patients included in this study in our hospital between February 2009 to February 2010, including 24 cases of male patients, female patients 16 cases, the patient's age is 33 to 79 years old, the average age of(54.5 ± 3.4) years, this group of patients who did not receive prior to surgery with chemotherapy and radiotherapy, and after clinical pathology confirmed non-small cell lung cancer. 30 cases of patients with a history of smoking. Pathological types: adenocarcinoma, 20 cases, 12 cases of squamous cell carcinoma, adenosquamous carcinoma in eight cases. Pathological stage: Ⅰ to Ⅱ of 20 patients, 20 cases of Ⅲ to Ⅳ stage patients. Selected patients with tumor tissue (tumor group, 40 patients) the size of 2cm × 1cm, and select distance lesion> 5cm normal lung tissue (control group, n = 40) of size 1cm × 0.5cm.

1.2 **Reagents and Equipment Reagents**: RCAS1 monoclonal mouse anti-human antibody production (Jingmei Biological Engineering Co., Ltd.), rabbit anti-human polyclonal antibody (Caspase-8 is produced by the Shanghai Long Island), immunohistochemistry SP kit (by the Fuzhou Maixin production), DAB chromogenic reagent (produced by Beijing Zhongshan Biotechnology Co., Ltd.). Equipment: 102M-type Motic microscope (, another German Motic production), JS-380A automatic gel image analyzer (Haipei Ching Technology Co., Ltd. production).

1.3 **Method** : determination of the studies for the determination of RCAS1 protein and Caspase-8 protein mainly taken by immunohistochemical method determination of specific steps: to selected groups of specimens taken 100mL / L formalin fixed processing , followed by a transparent, dehydration, embedding and slicing treatment, wherein the thickness of the slices need to be controlled well, Usually the thickness of the slice to 5um. Then the specimen water bath processing and baking temperature controlled at 37 ℃, time control in 24h; (2) the selected slice using xylene dewaxed time of 10min. Then, take the gradient alcohol debenzenized time 5 ~~ 10min, and

washed with distilled water, the time 5min; ③ 1:200 concentration of an anti-and added dropwise RCAS1 monoclonal mouse anti-human antibody and rabbit anti-human Caspase-8 polyclonal antibody dilution, the time for 3min; ④ The of DAB significant color processing, and in the case of greenhouse significant color test, general time for 30min, and take washed with distilled water; ⑤ The last using hematoxylin stained processing, and taken by microscope observation significant color of the specific situation and make the appropriate records.

1.4 **results interpretation**: the study is mainly based on the observation of the chromogenic and randomly selected five different multiples of field observation, which RACS1 protein and Caspase-8 protein positive staining was brown [3]. Where: positive cell count ≤ 10.0%; 2 points: positive cell count ratio of between 11.0% to 50.0%; 3: positive cell count ratio of> 50.0%. According to the intensity of staining 0: negative; 1: light yellow; 2: moderate yellow; 3: brown. And interpretation of the total score based on the total score of positive cells × staining intensity [4], the positive: Integral ≥ 3; the negative: Credits <3.

1.5 deal with the study of all the data are statistically take SPSS17.0 statistical software for data analysis and processing, the positive rate to take the X2 test, P <0.05 difference was statistically significant.

2. Results

2.1 two sets of test results through the analysis of the RCAS1 protein and of Caspase-8 protein expression, which, RCAS1 protein was localized in the cytoplasm and cell membrane, and Caspase-8 protein localized in the cytoplasm. The test results showed that RCAS1 positive expression rate of cancer patients was significantly higher RCAS1 positive expression rate, the difference was statistically significant (P <0.05); Oncology Group Caspase-8 expression was significantly lower than the control group Caspase-8 positive The expression rate, the difference was statistically significant (P <0.05). Table 1.

Two sets of RCAS1 protein and Caspase-8 protein expression

Groups	Index	Positive cases	Positive rate (%)
Control group（40case）	RCAS1 Protein	24	60.0*
	Caspase-8protein	32	80.0*
Cancer Group（40case）	RCAS1protein	33	82.5
	Caspase-8protein	25	62.5

With tumor group, * P <0.05, statistically significant

RCAS1 expression of Caspase-8 protein correlation through RCAS1 and Caspase-8 protein expression correlation analysis, which found that RCAS1 Caspase-8 protein expression in non-small cell lung cancer occurs negative correlation (r = -0.121, P<0.05).

3. Discussion

Non-small cell lung cancer is a common disease in clinical, seriously affect the health of the patient's body, and apoptosis in cancer cells, making the body's normal process of apoptosis decreased, while the tumor cells are abnormal proliferation, even normal cells abnormal deterioration of [5]. , RCAS1 is a present in the antigen factor in cancer cells, but having a higher expression in cancer cells. The RCAS1 protein has strong secretory function. Information [6], RCAS1 expression in cancer patients and their receptors have a certain contact. In the general case, RCAS1 protein expression in the normal human body is not, but due to the steady decline in the body's immune cells, and induce RCAS1 abnormal protein expression [7]. Of Caspase-8 is a multifunctional protein strong execution capabilities and the ability of apoptosis regulation, but also able to induce apoptosis in normal cells [8]. In the clinical study, the protein expression of cancer the whole process has a certain contact, risk factors often as apoptosis, Caspase-8 protein expression in cancer patients has important clinical significance.

The analysis by the clinical study, RCAS1 protein and Caspase-8 protein abnormalities in patients with non-small cell lung cancer in vivo expression. Information [9], the soluble RCAS1 protein was mainly localized in the cytoplasm and cell membrane, Caspase-8 protein was localized in the cytoplasm. This RCAS1 protein and Caspase-8 protein expression in non-small cell lung cancer in vivo, the positioning is different, and the intensity of expression and content. The data also showed that RCAS1 positive expression rate of cancer patients was significantly higher RCAS1 positive expression rate, the difference was statistically significant (P <0.05); Oncology Group Caspase-8 expression was significantly lower than the control group Caspase-8 positive The expression rate, the difference was statistically significant (P <0.05). Thus, two different sets of protein expression in non-small cell lung cancer is not the same, and are different from the normal tissues. Correlation analysis, the soluble RCAS1 and Caspase-8 protein expression and the occurrence of non-small cell lung cancer has a

negative correlation. By analyzing patients with non-small cell lung cancer tumor tissue the RCAS1 protein and Caspase-8 protein expression positioning inconsistency is mainly attributable to the differences in protein characteristics, cancer patients due to a gradual decline in physical function makes the the RCAS1 protein receptor protein abnormal expression The RCAS1 protein, making the expression of a large number of, so to be expressed in the cytoplasm and cell membrane. Abnormal apoptosis of normal cells in cancer patients Caspase-8 protein can not be effective normal regulation of cell apoptosis, so that its content is greatly reduced [10].

In summary, the clinical RCAS1 and of Caspase-8 protein expression associated with the occurrence of non-small cell lung cancer, and the expression of the abnormal tissue. , RCAS1 protein showed a rising trend in the organization of non-small cell lung cancer, and Caspase-8 protein in non-small cell lung cancer tissues showed a downward trend, but the two protein expression better than the expression in normal tissue, can as an important diagnostic marker for clinical diagnosis of non-small cell lung cancer, but the specific mechanism requires further analysis of clinical trial.

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3/5/2013