

## Relationship between cell adhesion molecule CD15 and proliferating cell nuclear antigen expression in gastric cancer and precancerous lesions

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### Abstract

**AIM:** Expression of cell adhesion molecule CD15 and proliferating cell nuclear antigen (PCNA) were examined in gastric cancer and precancerous lesions in order to study the correlation between CD15 and PCNA.

**METHODS:** CD15 and PCNA were detected respectively in 30 cases of normal gastric mucosa, 30 cases of intestinal metaplasia, 60 cases of atypical hyperplasia (22 mild cases, 21 moderate cases and 17 severe cases), and 95 cases of cancer tissues (63 well differentiated tumors, and 32 poorly differentiated tumors) by microwave-SP immunohistochemical technique.

**RESULTS:** The expression level of CD15 in gastric cancer was 81.1% (77/95), significantly higher than 55.0% (33/60) in atypical hyperplasia ( $P < 0.001$ ). CD15 expression in poorly differentiated tumors was 84.4% (27/32), significantly higher than 79.4% (50/63)

in well differentiated ones ( $P < 0.05$ ). Positive rate of CD15 in severe atypical hyperplasia was 82.4% (14/17), significantly higher than 36.8% (8/22) and 52.4% (11/21) in mild and moderate ones ( $P < 0.05$ ). No difference was found between normal gastric mucosa and intestinal metaplasia, neither between severe atypical hyperplasia and well differentiated tumors. Positive rate of PCNA in the cases of CD15 positive expression was 81.1% (120/148), significantly higher than that of CD15 negative expression ( $P < 0.001$ ). The level of CD15 expression was positively correlated to the level of PCNA expression ( $r = 0.64$ ). CD15 expression in tumors penetrating through the serosa was 95% (38/40), significantly higher than 78.2% (43/55) in tumors not penetrating through the serosa ( $P < 0.05$ ). Positive rate of CD15 in tumors with lymph nodes metastases was 92.6% (63/68), significantly higher than that in tumors with negative lymph node metastases ( $P < 0.05$ ). Positive rate of PCNA that was not correlated with the infiltration and metastases of gastric cancer was increased progressively with the extension of gastric mucosal lesions.

**CONCLUSION:** CD15 expression correlated with gastric mucosal progression and differentiation, and with carcinogenesis, infiltration and metastases. It might be a good marker in diagnosis of early gastric cancer and the evaluation of malignancy, predicting the biological behavior of tumor and the prognosis of patients.

**Key words:** Stomach neoplasms; Precancerous lesions; Cell adhesion molecule CD15; Proliferating cell nuclear antigen

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