Differential expression of glypican-3 (GPC3) in lung squamous cell carcinoma and lung adenocarcinoma and its clinical significance

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ABSTRACT. In this study, we examined the expression of glypican-3 (GPC3) in the 2 most common histological types of lung cancer, squamous cell carcinoma and adenocarcinoma, and explored the relationship between GPC3 expression and the prognosis of these 2 types of lung cancers. Lung cancer tissues and paracancerous tissues were collected from a total of 60 patients with lung squamous cell carcinoma or lung adenocarcinoma. GPC3 gene and protein expression in the tissue samples was examined using fluorescence-based real-time quantitative polymerase chain reaction, immunohistochemistry, and western blot analysis. In addition, the serological levels of GPC3 protein in lung cancer patients were analyzed using enzyme-linked immunosorbent assays. The overall expression of GPC3 protein in lung cancer was 45% (21/60). No GPC3 expression was detected in paracancerous lung tissues. Positive expression of GPC3 protein in lung squamous cell carcinoma was significantly higher than that in lung adenocarcinoma (70 vs 20%, P < 0.001). Among GPC3-positive lung squamous cell carcinoma and lung adenocarcinoma samples, samples collected from patients with lymph node metastasis and patients...
with poorly differentiated cancer exhibited more pronounced GPC-3 expression. GPC3 protein expression was significantly higher in lung squamous cell carcinoma than in lung adenocarcinoma. GPC3 may be a candidate marker for detecting lung squamous cell carcinoma.

**Key words:** Glypican-3; Lung adenocarcinoma; Lung squamous cell carcinoma