Posters

P - 006 Loss of ACSS2 expression predict worse survival in patients with gastric cancers
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Introduction: Acetyl-CoA synthetase 2 (ACSS2) supplies a key source of acetyl-CoA for tumors by capturing acetate as a carbon source, and contributes cell growth and survival especially under low-oxygen and nutrient-limited conditions. Recent studies have demonstrated that overexpression of ACSS2 was associated with a poor prognosis in breast cancers and gliomas. However, the expression status of ACSS2 and its prognostic impact in gastric cancers has not been investigated yet.

Methods: We performed immunohistochemistry (IHC) for ACSS2 in 350 cases of gastric cancers. The clinicopathological and prognostic significance of this protein was then evaluated. The expression of ACSS2 was calculated by multiplying intensity and proportion, and then classified into ACSS2-low and ACSS2-high.

Results: Normal gastric glandular epithelium well expressed ACSS2 with moderate intensity, while 61 cases (17.4%) of 350 GCs practically did not express ACSS2. In total, 219 cases (62.6%) were classified as ACSS2-low and 131 cases (37.4%) were classified as ACSS2-high. The expression status of ACSS2 was not correlated with other clinicopathological parameters such as age, sex, depth of invasion, and lymph node metastasis. However, the probability of 5-year overall survival (OS) and disease-free survival (DFS) was lower in ACSS-low group compared with those of ACSS2-high group (OS: 54.7% vs. 72.3%, P = 0.018, DFS: 54.3% vs. 69.4%, P = 0.026, respectively). In multivariate analysis, low ACSS2 expression was an independent prognostic value for predicting worse OS (P = 0.042) and DFS (P = 0.046).

Conclusion: Although certain tumors show acetate dependency via increased ACSS2 activity as previously indicated, our results suggest that gastric cancers are not that glycolytic and acquire acetyl-CoA independent of ACSS2 as tumor progresses. Loss of ACSS2 is a reliable prognostic factor predicting worse survival in patients with gastric cancer.