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Comparison Of Long-term Oncologic Outcomes Depending On SLC6A14 Expression In Pancreatic Ductal Adenocarcinoma

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Background : Tumors alter their metabolism to meet the increasing demand for nutrients of their proliferating cancer cells. SLC6A14 is an amino acid transporter that is highly up-regulated in pancreatic cancer. This study was designed to identify correlation between SLC6A14 expression and long-term oncologic outcomes of patients with pancreatic ductal adenocarcinoma (PDAC).

Methods : Patients who underwent pancreatic resection with PDAC at Gangnam Severance Hospital between 1997-2014 were enrolled. We evaluated immunohistochemically the expression of SLC6A14. SLC6A14 grade 1 and 2 were classified as SLC low, and grade 3 as SLC high. Patients demographics, pathologic findings, recurrence pattern and long-term outcomes were compared between two groups.

Results : Among 112 patients, 29 (25.9%) and 83 (74.1%) patients were classified as SLC low and SLC high group, respectively. Patients in SLC low group had a higher body mass index (23.5 vs 21.6, p=0.024) and a higher incidence of hypertension (62.1% vs 32.5%, p=0.005) than SLC high group. Pathologic findings and recurrence patterns were comparable between two groups. There were significant differences in long-term oncologic outcomes. The 1-year and 3-year overall survival were 79.3% and 50.5%, and 85.5% and 31.8% for patients in SLC low and high group, respectively (p=0.268). The 1-year and 3-year disease-free survival were 55.2% and 30.1%, and 50.6% and 20.8% for patients in SLC low and high group, respectively (p=0.518).

Conclusions : The higher expression of SLC6A14 in associated with worse outcome of overall survival and disease-free survival in patients with PDAC. These results showed that SLC6A14 is a novel therapeutic target for pancreatic cancer.

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