The Role of Pretreatment Serum IL-6 in Predicting Outcomes in Advanced Pancreatic Cancer Patients

서울성모병원 내과[1], 서울성모병원 종양내과[2]

정유빈[1], ***박세준**[2]

Background/Aims: Pancreatic ductal adenocarcinoma (PDAC) is characterized by its aggressive nature and dismal prognosis. Serum interleukin 6 (IL-6) levels were elevated in patients with pancreatic cancer relative to healthy counterparts. Furthermore, elevated IL-6 were associated with higher disease burden and stage in PDAC patients. This study aims to ascertain the prognostic significance of pretreatment serum IL-6 levels in patients with advanced PDAC.

Methods: IL-6 were derived from pre-treatment serum samples isolated using ELISA kit from 77 patients with advanced pancreatic cancer. Cutoff value of serum IL-6 for survival was assessed with receiver operating characteristic curve analysis. Kaplan-Meier analysis was performed to obtain median overall survival (OS), and hazard ratio was estimated using a stratified Cox regression model.

Results: Higher serum IL-6 levels were significantly associated with poorly differentiated histology ($p = 0.035$), higher tumor burden ($p = 0.044$), and low baseline albumin level ($p = 0.010$). Patients were classified into two groups based on their IL-6 levels, using ROC curve-derived cutoffs (6.03 pg/ml; area under the curve, 0.738; $p < 0.001$). According to the cutoff value, the entire cohort was classified into low IL-6 (49 patients) and high IL-6 (28 patients) groups. At a median follow-up of 9.28 months, the median overall survival was 13.2 months (95% CI, 10.5−16.0) in the low IL-6 group, as compared with 3.63 months (95% CI, 2.20−5.01) in the high IL-6 group (HR = 0.32; 95% CI, 0.17−0.60; $p < 0.0001$). The median progression-free survival was 9.67 months (95% CI, 6.34−13.0) in low IL-6 group compared with 2.26 months (95% CI, 0.00−5.40) in high IL-6 group (HR = 0.26; 95% CI, 0.11−0.64; $p < 0.0001$). The disease control rate was significantly better in the low IL-6 group than in the high IL-6 group ($p = 0.001$).

Conclusions: The serum-derived IL-6 levels were associated with rapid disease progression and early risk of death in patients with advanced pancreatic cancer.