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Prognostic factors for predicting early recurrence within the first year of surgery in pancreatic ductal adenocarcinoma

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Introduction: Pancreatic ductal adenocarcinoma (PDAC) has a dismal prognosis and it is a lethal disease with a recurrence rate of almost 50% within 1 year even after curative resection. The purpose of this study was to find out risk factors of early recurrence within the first year of surgery in PDAC.

Methods: From January 2007 to December 2016, 833 patients who underwent pancreatectomy with curative intention for PDAC at a single institute were included in this study, and their medical records were retrospectively reviewed.

Results: The median overall survival was 22.1 months and the median progression free survival was 10.4 months. After excluding 80 patients who have lost to follow-up, there were 394 patients (52.3%) who have recurred within the first year of surgery. Multivariable logistic regression revealed that the followings were independently associated with early recurrence: neutrophil to lymphocyte ratio > 2.7 (odds ratio [OR] 1.684, 95% confidence interval [CI] 1.164 - 2.436), poorly or un-differentiated tumor (OR 2.421, 95% CI 1.678 - 3.492), T stage (T2 [OR 2.082, 95% CI 1.384 - 3.134], T3 [OR 4.577, 95% CI 2.589 - 8.091]), and N stage (N1 [OR 1.560, 95% CI 1.075 - 2.265], N2 [OR 4.561, 2.831 - 7.348]). Adjuvant chemoradiation therapy was a factor that reduces the risk of early recurrence (OR 0.552, 95% CI 0.386 - 0.789).

Conclusions: Identification of risk factors associated with early recurrence in the preoperative and postoperative state may help establish a therapeutic strategy to reduce the recurrence rate of PDAC patients.

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