

Factors Impacting Survival Outcomes after Curative Resection for Primary Duodenal Adenocarcinoma

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ABSTRACT

Background: Primary duodenal adenocarcinoma (PDA) is a rare gastrointestinal tumor and factors predicting survival outcomes after curative resection have yet to be fully elucidated.

Methods: Applying the Cox proportional hazard model, we retrospectively evaluated associations between overall/relapse-free survivals (OS/RFS) and 18 clinicopathological factors in 33 patients who had undergone R0 resection for PDA.

Results: Univariate analysis revealed worsening RFS to be significantly related to pancreatic invasion, multiple nodal metastases, and the preoperative serum carcinoembryonic antigen level. Pancreatic invasion and multiple nodal metastases were also found to be significantly associated with poorer OS in the univariate analysis. In multivariate analysis, only pancreatic invasion was an independent predictor of OS (hazard ratio [HR] 5.27, 95% confidence interval [CI] 1.15-24.2, P = 0.033). As to RFS, both pancreatic invasion and multiple nodal metastases correlated independently with unfavorable outcomes (HR 42.8, 95% CI 3.59 - 510, P = 0.003; HR 216, 95% CI 6.86 - 6.8 x 10³, P = 0.002; respectively). Only one of the 19 patients with PDA limited to the mucosal/submucosal layer developed recurrent disease (local site), while seven patients with pancreatic invasion and/or multiple nodal metastases all experienced meta-chronous distant recurrence.

Conclusion: While the likelihood of progression to systemic disease after meticulous surgical removal is very low in early-stage PDA, patients with PDA invading the pancreas and/or metastasizing to multiple lymph nodes are at high risk of developing distant relapse and may benefit from additional systemic therapy.

Key words: duodenal adenocarcinoma, pancreatoduodenectomy, pancreatic invasion, nodal metastasis, recurrence, survival