

EARLY RECURRENCE PREDICTORS AND PATTERNS AFTER RESECTION FOR PANCREATIC DUCTAL ADENOCARCINOMA: IS THE SURGEON ONLY A BYSTANDER?

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Background : Surgical resection is the primary curative option for pancreatic ductal adenocarcinoma (PDAC); however, high recurrence rates persist despite surgical advancements. Early recurrence (ER), within 12 months post-surgery, poses a unique and poorly understood challenge. This study aims to identify ER risk factors and recommend tailored surveillance for high-risk patients.

Methods : Patients undergoing curative pancreatic resection for PDAC at our center (2015-2020) were analyzed using logistic regression to assess ER predictors and impacts on overall survival (OS).

Results : Among 348 patients over a median 1.9-year follow-up, 76.7% experienced recurrence, with 40.2% encountering ER. Independent risk factors for ER included higher-grade tumors ($p=0.008$, OR 2.8), positive lymph nodes ($p=0.01$, OR 1.4), elevated initial CA19-9 (>37 U/mL) ($p=0.014$, OR 3.5), low serum albumin ($p=0.007$, OR=4.1), and the absence of adjuvant chemotherapy ($p=0.037$, OR=7.5). CDKNA1/2 mutations raised ER risk significantly ($p=0.01$), while BRCA1/2 mutations were protective ($p=0.016$). Resection margins and postoperative pancreatic fistula did not increase ER risk ($p=0.4$, $p=0.23$). Liver was the most common site of ER (32.9%). A small subset had ER with lung metastasis only (7.9%), linked to extended post-recurrence survival (2.2 vs. 0.48 years, $p=0.001$). ER correlated with poorer OS: 49.3%, 7.9%, and 4.3% at 1-, 3-, and 5-years compared to 100%, 44.9%, and 10.2% for late recurrence ($p=0.001$, $p=0.001$, $p=0.048$).

Conclusions : ER arises from aggressive tumor biology. Surgical outcomes like margins and complications/postoperative pancreatic fistula have minimal impact on ER. The use of adjuvant chemotherapy and BRCA-mutated PDAC lessen the ER risk. ER to the lungs was associated with the best prognosis. Understanding risk factors and recurrence patterns guides personalized management.

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