

Can Surgical Resection Of Metastatic Lesions Be Beneficial To Pancreatic Ductal Adenocarcinoma Patients With Isolated Lung Metastasis?

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Background : Although pancreatic ductal adenocarcinoma with distant metastasis has a poor prognosis, some reports show promising survival outcomes after a multidisciplinary approach, including surgery for isolated lung metastasis. In current treatment guidelines, only systemic therapy, such as chemotherapy or supportive treatment, is recommended for pancreatic ductal adenocarcinoma patients with distant metastasis regardless of the metastatic sites or patterns. So, we investigated the effect of surgical resection of metastatic lesions on survival rate after the occurrence of metastasis in pancreatic ductal adenocarcinoma patients with isolated lung metastasis.

Methods : This retrospective study analyzed 1342 patients who were histologically diagnosed with pancreatic ductal adenocarcinoma with distant metastasis from January 2007 to December 2018, of which 83 patients had isolated pulmonary metastasis. Additionally, 4263 patients were extracted from the National Cancer Data Base and analyzed for external validation. Survival after metastasis in pancreatic ductal adenocarcinoma patients with isolated pulmonary metastasis were analyzed according to the metastatic pattern, multiplicity of metastatic lesions, and treatment options using the long-rank test and Kaplan-Meier survival analysis.

Results : The 5-year survival rate was significantly higher in patients who underwent surgical resection of metastatic lung lesions than in those who received only chemotherapy or supportive treatment (60.6% vs. 6.2% vs. 0.0%, $P < 0.001$). A similar trend was observed in the analysis conducted using the National Cancer Data Base (2-year survival rate, 27.4% vs. 15.8% vs. 4.7%, $P < 0.001$). In the multivariate analysis, lung lesion multiplicity (Hazard ratio [HR] = 2.004, $P = 0.017$), lung lesion resection (HR = 0.278, $P = 0.036$), chemotherapy (HR = 0.434, $P = 0.024$), and chemotherapy cycles (HR = 0.300, $P < 0.001$) had statistically significant effects on survival.

Conclusions : Surgical resection of metastatic lesions with primary pancreatic lesions is recommended with effective chemotherapy in pancreatic ductal adenocarcinoma patients with isolated lung metastasis.

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