10-year survival after resection of pancreatic ductal adenocarcinoma with pathological re-examination in a nationwide cohort

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Background: Resection of pancreatic ductal adenocarcinoma (PDAC) is generally considered a potentially curative intervention. Yet, long-term (i.e. 10-year) overall survival (OS) after resection remains rare and previous studies have not accounted for potential pathology misclassification. This nationwide study assessed the rate of 10-year OS after resection of PDAC including re-examination of pathology data.

Methods: Patients after resection of PDAC were identified from the Netherlands Cancer Registry (NCR; 2000-2020). Kaplan-Meier survival analysis was performed to estimate the 10-year OS of the entire cohort, and for each of four consecutive 5-year periods to assess survival changes over time. Among the entire cohort, patients who survived ≥ 10 years were identified and their pathology was re-examined by two or more pancreatic pathologists.

Results: A total of 5553 patients were identified from the NCR as having undergone a resection for PDAC, with an estimated 10-year OS of 10.6%. Kaplan-Meier survival analysis of consecutive 5-year periods demonstrated a significant improvement in OS over time (P<0.001). Overall, actual 10-year OS after resection was reached by 180 patients (7.4%) of 2442 patients with resected PDAC. After re-examination of pathology, for 51/180 (28.3%) patients a diagnosis other than PDAC was concluded; 34 based on re-examination of the available pathology reports, and 17 based on microscopic re-examination. The most common alternative diagnoses were (peri-)ampullary cancer, non-invasive IPMN, and pancreatitis. After excluding patients initially misclassified as PDAC, the true observed 10-year OS rate of resected PDAC was 4.7%.

Conclusion: The 10-year OS after resection of PDAC in a nationwide cohort, corrected for misregistration and misclassification, was only 4.7%. Over a quarter of patients in this cohort had a diagnosis other than PDAC at re-examination.