A case of repeat pancreatectomy for pancreatic ductal adenocarcinoma recurrence in the remnant pancreas

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Introduction
Pancreatic ductal adenocarcinoma (PC) is with 85% the most common of all pancreatic malignancies. The worldwide incidence annually is 3.6 for women and 4.9 for men per 100,000 population. The only potentially curative treatment is surgical resection. Due to the aggressive nature of PC, only about 30% of patients have a resectable tumor at initial diagnose. Even though over the last decades surgical techniques and adjuvant therapy options have improved, the overall 5-year survival rate after resection is still poor with 10-20%. Moreover, within 2 years 80% of patients develop recurrence after initial resection. Most commonly the recurrence is found in the remnant pancreas, in the liver or has metastatised to the peritoneum.

We now report the case of a female patient with repeat pancreatic ductal adenocarcinoma in the remnant pancreas 7 years after initial resection.

Case report
In 2008, the then 70-year-old female patient was referred to a regional hospital by her GP with occlusive jaundice and abdominal pain in the right upper quadrant. Abdominal CT scan (Image 1) showed a mass in the head and uncinate process of the pancreas with infiltration of the portal vein. Although repeated biopsies failed to confirm the suspected carcinoma, partial pancreaticoduodenectomy (PD) with portal vein resection was performed. Histopathology showed a ductal adenocarcinoma (Image 2) pT3, pN1 (1/31), G3, V1, R0. The postoperative course was uneventful and the patient received a full course of adjuvant chemotherapy with gemcitabine.

The patient had regular tumor surveillance. In August 2015 FDG-PET-CT scan (Image 3) showed a single suspicious lesion in the body of the remnant pancreas, 3 cm distal of the pancreatico-jejunostomy. After discussion at the MDT conference the indication for re-resection was confirmed. A resection of the body of the pancreas together with the pancreatico-jejunostomy was performed. Histopathology showed a ductal adenocarcinoma (Image 2) pT3, pN1 (1/31), G3, V1, R0. The postoperative course was uneventful and the patient received a full course of adjuvant chemotherapy with gemcitabine.

Discussion
As recurrence of PC usually develops within 2 years after resection, there is some discussion whether remnant PC, which develops years later, might actually be a new primary lesion rather than cancer recurrence. Hashimoto et al. reported on 8 patients who underwent completion total pancreatectomy (TP) for PC in the remnant pancreas 23-103 months after having initially undergone PD/distal pancreatectomy for PC. They compared the initial and the second histological specimen by means of pyrosequencing assay for KRAS mutations and immunohistochemistry for MUC1/MUC2. Their findings led them to suspect 4 cases to be local recurrence of the initial cancer and 4 cases to be new primary PC. Even though the histological specimen (Image 5&6) of our case were not subject to such examinations, these findings support our belief that our patient had developed a new primary lesion in the pancreatic remnant 7 years after the initial resection.

Conclusion
As PC is one of the most aggressive malignant diseases with poor survival rates, surgery for recurrent PC is discussed controversially in literature. Miyazaki et al. reported on 284 patients who underwent R0/R1 resection due to PC. 170 developed a recurrence, 11 of them were eligible for repeat resection of an isolated local pancreatic lesion. 5-year survival rate was found to be 41% in the resected group and 6.2% in the non-resected group. They concluded that repeat resection improves the survival rate, but should only be sought if R0-resection is the expected outcome.

When performing an operation due to recurrent PC, the surgeon has to decide between completion TP and partial pancreatectomy. Müller et al. found, that elective TP shows similar hospital mortality and morbidity rates as partial pancreatectomy. They reported good control of diabetes after TP and concluded that TP should no longer be avoided, if there is a good indication for it. However, it should be noted that every patient after TP will need a lifelong substitution of insulin and pancreatic enzymes. In our case it was possible to achieve a R0 resection and preserve enough pancreatic tissue that the patient still had a sufficient endo- and exocrine function. We believe that this is beneficial for the patient’s quality of life with a disease with poor long-term survival rates. Furthermore a partial pancreatectomy should be preferred if negative margins can be achieved.

References