Pylorus-preserving pancreaticoduodenectomy (PPPD) is standard treatment for tumours confined to the pancreatic head. These are usually pancreatic ductal carcinomas, tumours of the papilla of Vater or distal bile duct carcinomas. PPPD in experienced hands is a straightforward surgical procedure and, when carried out in a high-volume centre (an experienced surgeon alone is not enough!), has a mortality of less than 2%. As these mortality rates have settled down in specialized centres worldwide, the indications for undertaking PPPD for lesions in the region of the pancreatic head have clearly expanded along with a more aggressive attitude to resection. The result is that any substantial series of pancreatic resections will include cases of unusual tumours, either identified preoperatively or presenting as primary adenocarcinoma of the pancreas.

In this issue of HPB, there are two papers dealing with pancreatic resection for isolated metastasis from extrapancreatic malignancies. The first paper, by Zacharoulis and colleagues from London [1], relates the favourable survival outcome of PPPD for metastasis from renal cell carcinoma and the second paper, by Nikfarjam and associates from Melbourne [2], describes two patients who had undergone margin-negative resections for isolated pancreatic metastases from a previously resected ocular melanoma. These reports demonstrate that it is worthwhile to consider resection of isolated secondary tumours in the pancreatic head whenever these may present.

In autopsy series, metastases to the pancreas from distant cancers have been reported in as many as 11% of patients with malignant tumours [3]. In fact, secondary pancreatic tumours are found four times more often than primary pancreatic tumours at autopsy. The great majority of patients with metastases to the pancreas have widespread disease, whereas solitary metastatic tumours to the pancreas are rare. Although the sites of primary tumour presenting with isolated pancreatic metastasis most often are kidney, lung, breast, colon and melanoma sites, a number of other primary tumours have also been reported. To sum up, solitary pancreatic metastasis has been reported from stomach, extrahepatic bile duct, ovary, duodenum, oesophagus, uterus, salivary gland, prostate, liver, testis, thyroid, bone and brain [4]. In addition, there are recent case reports of primary tumours identified as Ewing’s sarcoma, cardiac rhabdomyosarcoma, Merkel cell carcinoma, dermatofibrosarcoma protuberans and malignant fibrous histiocytoma. The homing of metastasising cancer cells to the head of pancreas is not well understood. How could orbital melanoma cells find their way preferentially to the pancreatic head and develop into a solitary metastasis? Interestingly, the reverse has also been described, i.e. a pancreatic carcinoma giving rise to a solitary metastasis in the orbit [5].

The clinical presentation of patients with secondary pancreatic tumours may be similar to that of patients with a primary tumour in the pancreatic head region. Jaundice, pain and weight loss are often the first symptoms and mimic a primary pancreatic tumour. In the absence of a history of a nonpancreatic malignancy, a metastasis in the pancreas is therefore readily misdiagnosed as primary pancreatic cancer [6]. As discussed in the paper by Zacharoulis, imaging studies of pancreatic tumours, especially contrast-enhanced spiral CT, may reveal features that suggest a type of lesion other than ductal adenocarcinoma. Most primary pancreatic tumours appear as hypodense, hypovascular lesions, whereas metastases from a renal cell carcinoma will show up as a hypervascular lesion. Neuroendocrine tumours and lymphomatous lesions, however, are also hypervascular on contrast-enhanced CT, and preoperative differentiation of these tumours is of crucial importance in view of different treatment strategies. Neuroendocrine tumours require scintigraphic assessment of peptides, and lymphomatous lesions are primarily treated by chemotherapy. And in a case of a lymphoma in the pancreatic head diagnosed as cat-scratch fever, as we encountered in our series in Amsterdam, no therapy is required at all.

Many tumours in the pancreatic head are resected without preoperative or intraoperative histological con-
firmation. Fine needle aspiration biopsies are notoriously inaccurate because of low sensitivity and sampling errors, not to mention the potential risk of seeding metastases. Resection of any suspicious pancreatic lesion is justified although one will end up (as shown in our series) resecting benign, inflammatory lesions in 5% of cases operated for presumed cancer of the pancreatic head [7]. Also when the lesion turns out to be a metastasis of a previously resected, extrapancreatic malignancy, there is a fair chance that resection will improve survival as in the patients with renal cell carcinoma secondaries reported in this issue. Prognosis is especially good when there is no evidence of tumour outside the pancreas and when there is a long disease-free interval between primary operation and presentation of a metastasis in the pancreas. Long-term survival has also been reported after resection of isolated pancreatic metastases from breast cancer, melanoma metastases and sarcomas [2, 6]. The same trend is noted as for liver metastases, in which in addition to colorectal and neuroendocrine tumours, series now increasingly include resection of metastases from other primary sites. Hence, in compliance with an aggressive approach towards resection of any suspicious tumour in the pancreatic head, we will see an increasing number of unusual cases in which we perform PPPD.

**References**


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Please see new regulations for Case Reports on page 193