

CASE REPORT

## Five-year survival following a medial pancreatectomy for an invasive ductal carcinoma from the body of the pancreas

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### Abstract

We report a rare case of a patient who survived for 5 years after undergoing a medial pancreatectomy for invasive ductal carcinoma originating from the body of the pancreas. A 63-year-old woman was diagnosed as a small cancer of the pancreatic body, and surgery was performed. Even though the tumor was a carcinoma, its small size prompted us to perform a medial pancreatectomy with regional lymph nodes dissection. Additional chemoradiation was performed and, five years after surgery, the patient is well with no signs of recurrence. Medial pancreatectomy for invasive ductal carcinoma has not ever been reported. Furthermore, long-term survival after a lumpectomy for invasive ductal carcinoma has never been reported in the literatures. The current case suggests that long-term survival in patients with invasive ductal carcinoma of the pancreas may be associated with the pathological or biological features of pancreatic carcinoma.

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**Key words:** Ductal carcinoma; Medial pancreatectomy; Pancreatic carcinoma

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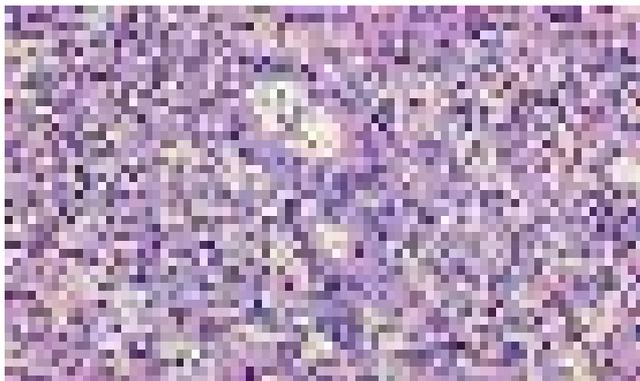
### INTRODUCTION

Invasive ductal carcinomas that originate from the body

or tail of the pancreas are often unresectable because of unfortunate delays in tumor diagnosis. Most institutions continue to report resection rates for standard surgical procedures and 3-year or 5-year survival rates of no more than 20%<sup>[1]</sup>. Medial pancreatectomy is a segmental pancreatectomy for the treatment of benign lesions in the neck and body of the pancreas<sup>[2]</sup>. We report the extremely rare case of a patient who survived for 5 years after undergoing a medial pancreatectomy for invasive ductal carcinoma originating from the body of the pancreas.

### CASE REPORT

A 63-year-old woman was admitted to our hospital for an evaluation of a dilatation in her main pancreatic duct. She had been diagnosed as having diabetes mellitus at the age of 53 years. Blood sugar control prompted her previous doctor to perform an abdominal computed tomography examination, which showed an apparent dilatation of the main pancreatic duct in the body and tail of the pancreas. Neither contrast-enhanced computed tomography, magnetic resonance imaging nor endoscopic ultrasonography revealed the cause of the dilatation, however, magnetic resonance cholangiopancreatography showed that the main pancreatic duct with beaded dilatation suddenly became occluded in the body of the pancreas. A clinical diagnosis of non-detectable, small cancer of the pancreatic body was made, and surgery was performed. An intraoperative ultrasonography examination depicted a round hypoechoic mass, measuring 1.0 cm in diameter, in the body of the pancreas. No infiltration to the vessels or metastatic lesions was detected. Even though the tumor was a carcinoma, its small size prompted us not to perform a Whipple procedure or a left pancreatectomy. Instead, a medial pancreatectomy, 4 cm along the long pancreatic axis, and an independent dissection of the lymph nodes around the common hepatic artery and proximal splenic artery were performed. The tail of the pancreas was anastomosed using a Roux loop. The tumor was histologically diagnosed as a well-differentiated adenocarcinoma, with a maximum diameter of 1.0 cm (Figure 1); one peripancreatic lymph node containing a metastasis was observed (Figure 2). When examined under low magnification, lymphocyte aggregation around the cancer stroma was observed, immunohistochemically, the tissue stained positive for both CD4 and CD8. The patient's postoperative course was uneventful; adjuvant chemoradiation was performed for 4 wk. The external-beam radiation doses were delivered using conventional



**Figure 1** Under high magnification, the tumor is histologically diagnosed as a well-differentiated adenocarcinoma and is surrounded by lymphocyte aggregation.

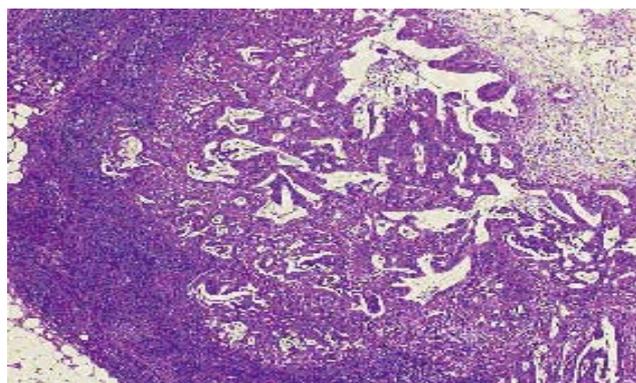
fractionation: 2 Gy, 5 fractions a week. Concomitant chemotherapy was also performed on the first and fifth days of every week (10mg CDDP, 1KE OK432). In addition, she received a 120-h continuous infusion of 625 mg of 5-fluorouracil per week during the radiotherapy. The patient is well with no signs of recurrence five years after surgery.

## DISCUSSION

Many surgeons perform extended radical surgeries, including an extended lymphadenectomy and retroperitoneal soft-tissue clearance, for various stages of pancreatic cancer; however, a survival benefit has not been demonstrated<sup>[3]</sup>. Even after a curative Whipple resection is performed, adjuvant treatments like radiotherapy and 5-FU treatment are often performed in the USA. So, Jeekel stated that a Whipple procedure was inadequate for pancreatic head cancer and regarded this procedure to be a lumpectomy rather than a curative procedure<sup>[4]</sup>. A medial pancreatectomy for invasive ductal carcinoma should also be regarded as a lumpectomy.

The main problem associated with performing a medial pancreatectomy is the need for careful patient selection<sup>[2]</sup>. In the present case, a very small tumor was visualized in the neck or right margin of the body of the pancreas. Preoperatively, evidence suggesting an invasive ductal carcinoma was minimal. The involvement of the main pancreatic duct enabled us to avoid enucleation. In conventional pancreatectomies, a pancreaticoduodenectomy or a near-total left pancreatectomy may be required. To avoid postoperative or late complications from a major pancreatic resection, we performed a medial pancreatectomy and independent lymph-node dissection in the present case. Medial pancreatectomy for invasive ductal carcinoma has not ever been reported. Furthermore, long-term survival after a lumpectomy for invasive ductal carcinoma has never been reported in the literatures, to the best of our knowledge.

Large multivariate analyses of resected pancreatic adenocarcinoma have proven that lymph node metastasis serve as prognostic features, however, Fortner *et al*<sup>[5]</sup> reported that the presence of lymph node metastasis did not significantly influence survival after regional pancreatectomies for various stages of pancreatic cancer. In tumor



**Figure 2** Cancer metastasis in a lymph node close to the pancreatic body.

biology, the existence of carcinoma cells in a lymph node is regarded as indicating metastatic invasion through the lymphatic ducts out of primary organ. In the present case, the peripancreatic lymph-node metastasis did not preclude long-term survival. Thus, long-term survival may not be precluded by the presence of lymph node metastasis, otherwise, extended radical surgery can not contribute to the treatment of metastatic invasion through the lymphatic ducts. The prognosis of patients with invasive ductal carcinoma of the pancreas who have survived for 5 years may be the same, regardless of whether an extended radical surgery or a lumpectomy is performed.

Many patients with even stage I diseases have recurrences after resection. Fortner *et al*<sup>[5]</sup> reported in 1996 that the 5-year survival rate after a regional pancreatectomy was 33% in 12 patients with ductal adenocarcinoma of the pancreatic head, in whom the tumor measured 2.5 cm or less in diameter. Some patients with advanced diseases, however, have survived longer than 5 years after their initial treatment. The pathological and biological features of the 5-year survivors varied.<sup>[6]</sup> In the present case, peritumoral lymphocyte aggregation was observed, and CD4+ and CD8+ T cells were noted using immunohistochemistry. Fukunaga *et al*<sup>[7]</sup> reported that the presence of CD4+ and CD8+ T cells in pancreatic adenocarcinoma serves as a good indicator of a favorable outcome after surgical treatment.

In summary, we report a patient with invasive ductal carcinoma from the body of the pancreas that survived for more than five years after undergoing a medial pancreatectomy. The current case suggests that complete surgical extirpation of early-stage carcinomas of the pancreas accompanied with adjuvant therapy can be long-term survival may be associated with the pathological or biological features of pancreatic carcinoma.

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