

# An Initial Case Report of a Laparoscopic Spleen-Preserving Distal Pancreatectomy for a Patient with a Pancreatic Metastasis of Malignant Melanoma

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Metastatic malignant melanoma to the pancreas accounts for 5% of all patients undergoing a pancreatic metastasectomy. Here, we report a 76-year-old man with simultaneous metastases of malignant melanoma to the left elbow and pancreatic tail 4 years after resection of the primary tumor, which was located on the left fourth finger. Following resection of a subcutaneous mass in the left elbow, he underwent a laparoscopic spleen-preserving distal pancreatectomy with lymph node dissection along the splenic artery. His post-operative course was uneventful, and he was discharged from the hospital on the 13th postoperative day. He has survived for 7 months without exhibiting any signs of recurrence. *Shinshu Med J 63 : 19–24, 2015*

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## I Introduction

Pancreatic metastasis from a non-pancreatic primary tumor is rare, accounting for approximately 2 % of all pancreatic tumors<sup>1)</sup>, and metastatic malignant melanoma accounts for 5 % of all patients undergoing a pancreatic metastasectomy<sup>1)</sup>. Although metastatic melanoma has been considered to be a systemic disease with a poor prognosis, long-term survival after a metastasectomy has been reported for patients with not only isolated metastasis, but also multiple organ involvement including abdominal organs<sup>2)</sup>, provided that a curative resection was secured.

With rapid developments in surgical technology, laparoscopic distal pancreatectomy has gained

worldwide acceptance<sup>3,4)</sup> because of its advantages, such as reduced postoperative pain, faster recovery, and fewer wound-related and general morbidities<sup>5)–7)</sup>. Recently, several authors have described the use of a technically challenging laparoscopic spleen-preserving distal pancreatectomy (Lap SPDP) to reduce the risks associated with a splenectomy<sup>8,9)</sup>.

Here, we present a patient with simultaneous pancreatic and left elbow metastases from a malignant melanoma that were treated with resection of a subcutaneous mass in the left elbow followed by Lap SPDP. A review of the literature is also included.

## II Case Report

A 76-year-old man underwent an amputation of the left fourth finger and left axillary lymph node dissection for the treatment of malignant melanoma in July 2009. The pathological stage was pT3aN3M0, stage IIIC according to the American Joint Committee on Cancer (AJCC) classification<sup>10)</sup>.

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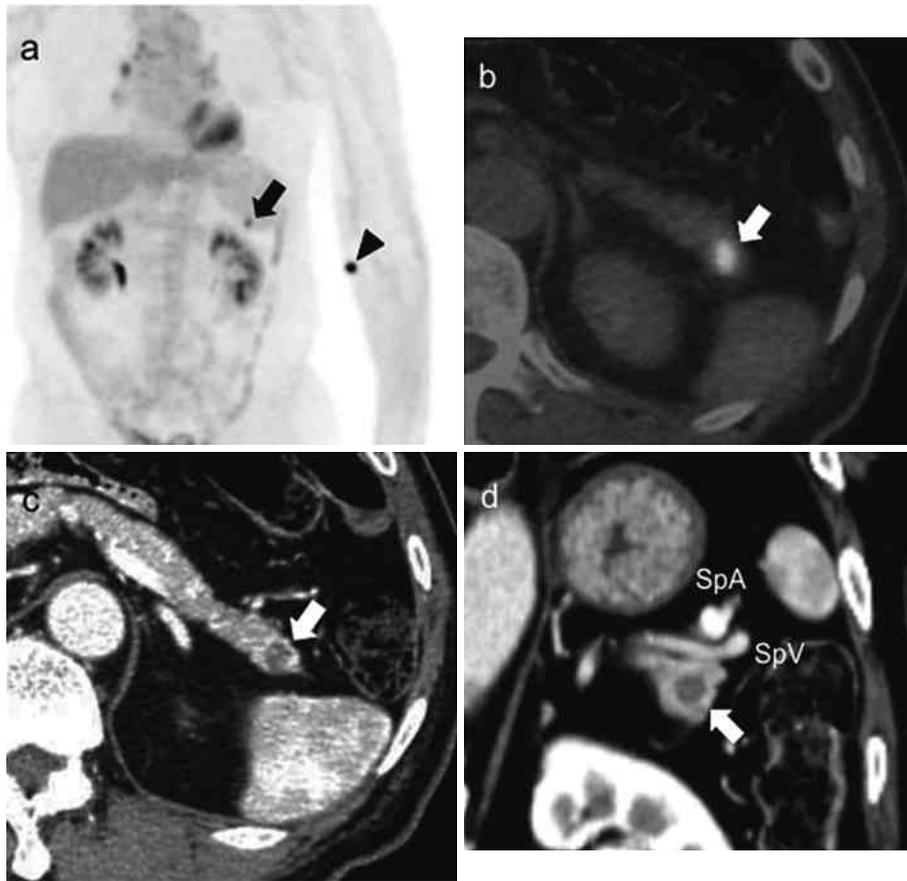


Fig. 1  $[^{18}\text{F}]$  FDG PET/CT films. (a) Tracer uptake was confirmed in the left upper quadrant of the abdomen (arrow) and left elbow (arrowhead). (b) The uptake in the abdomen corresponded to the pancreatic tail (arrow). (c) Contrast-enhanced CT showed a well-circumscribed mass in the pancreatic tail with an enhanced outer rim on the arterial phase (arrow). (d) No signs of extrapancreatic tumor invasion including splenic artery (SpA) and vein (SpV) were seen (arrow).

The patient received a local injection of interferon  $\beta$  after the operation. In March of the following year, a left brachial lymph node metastasis was detected and resected. Three years later,  $[^{18}\text{F}]$  2-fluoro-2-deoxy-D-glucose-positron emission tomography/computed tomography ( $[^{18}\text{F}]$ FDG-PET/CT) films showed abnormal uptakes in lesions located in the pancreatic tail and left elbow (**Fig. 1a, b**). In March 2013, the patient underwent resection of a subcutaneous mass in his left elbow, which was histopathologically diagnosed as a malignant melanoma. Thereafter, he was referred to our department for further investigation of the pancreatic tumor. A contrast-enhanced computed tomography (CT) examination showed a 20-mm circumscribed nodule in the pancreatic tail (**Fig. 1c**) with

an enhanced outer rim observed during the arterial phase and no dilation of the main pancreatic duct, suggesting that a pancreatic adenocarcinoma was unlikely. No signs of adjacent organ invasion were visible (**Fig. 1d**).

Based on a diagnosis of pancreatic metastasis of the malignant melanoma, the patient underwent a Lap SPDP with lymph node dissection. During the subsequent laparoscopic observation, a mass with a maximum diameter of approximately 20 mm was confirmed in the pancreatic tail using intraoperative ultrasonography. First, the splenic artery and vein were dissected gently from the pancreas; a window was then created and enlarged until a laparoscopic linear stapler could be placed between the pancreas and the splenic vein. After the transection of the

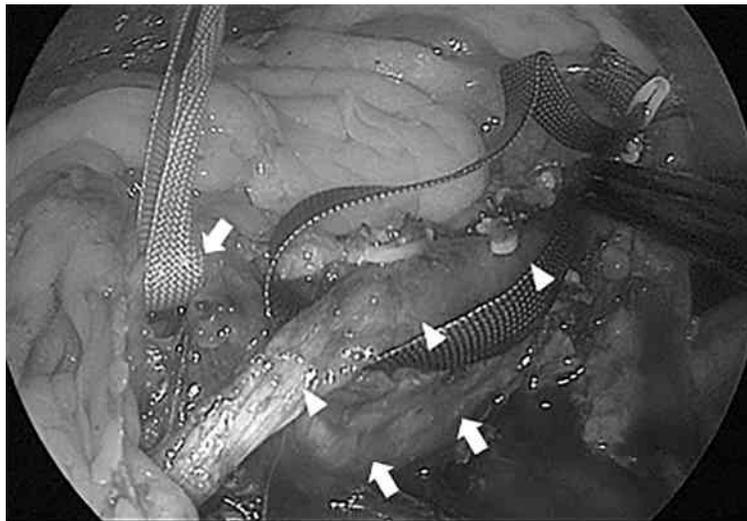


Fig. 2 Laparoscopic view of the preserved SpA (arrow) and SpV (arrowhead).



Fig. 3 Resected specimen of the pancreas. The arrow indicates a metastatic melanoma.

pancreas, a continuous dissection starting from the cut end of the pancreas, which was grasped and retracted anteriorly, was made towards the tail until the pancreas was freed (**Fig. 2**). Finally, the whole specimen was placed in a bag and extracted through the enlarged trocar site at the umbilicus. The operation time and intraoperative blood loss were 175 minutes and 100 mL, respectively.

Macroscopically, a pale black tumor with a diameter of 17 mm was observed (**Fig. 3**). Histopathological examination revealed a pancreatic metastasis of malignant melanoma with clear resection margins and no lymph node involvement. The postoperative course was uneventful, and the patient

was discharged from the hospital on the 13th postoperative day. The patient has survived for 7 months without exhibiting any signs of recurrence.

### III Discussion

Previous studies have shown that the prognosis of patients with distant metastases from malignant melanoma depends on the initial metastatic site<sup>(1)(2)</sup>; specifically, patients with visceral metastases in organs other than the lung had the lowest survival rate. However, several studies have shown that a complete surgical resection can be associated with an improved overall survival, even among patients with abdominal metastases of malignant

melanoma<sup>13)-15)</sup>.

Because the number of metastases at distant sites has been documented as an important prognostic factor<sup>16)17)</sup>, the exact role of surgical resection has remained undefined in patients with multiple organ metastases. Wood et al. reported that a complete resection of the metastatic tissue provides a similar median overall survival for patients with synchronous multisite metastases to single-site metastasis<sup>18)</sup>. Similarly, Essner and colleagues have shown that the number of metastases was not selected as one of the predictive factors for overall survival in patients undergoing curative surgical resection of metastatic malignant melanoma in a multivariate analysis<sup>14)</sup>. These results indicated that the surgical resection of metastatic malignant melanoma might be efficacious for selected patients with multiple metastases, provided that a curative resection is possible.

Laparoscopic pancreatic surgery is an emerging field that has shown several benefits over open surgery, with a faster recovery and quicker return to normal activities<sup>19)-21)</sup>. The common indications for laparoscopic distal pancreatectomy are thought to be benign or low-grade malignant tumors located in the pancreatic body or tail. However, laparoscopic surgery for malignant pancreatic lesions remains controversial because of concerns regarding the oncological consequences<sup>22)</sup>. Previous studies have shown the inferiority of laparoscopic distal pancreatectomy because of the smaller number of lymph nodes that are removed, compared with an open distal pancreatectomy<sup>5)</sup>. However, recent studies revealed that the short-term and long-term outcomes were similar between a laparoscopic and an open distal pancreatectomy in patients with invasive ductal carcinoma<sup>23)24)</sup>. These results suggest that malignant lesions are also potential candi-

dates for a laparoscopic distal pancreatectomy.

There is no consensus on the need to perform spleen preservation in surgical resection for invasive ductal adenocarcinoma of the pancreas since preservation of splenic vessels is hazardous for oncologic radicality<sup>25)</sup>. However, splenic preservation is thought to be preferable in the setting of non-invasive malignant neoplasm, such as neuroendocrine or metastatic tumor, because of the favorable role of the spleen for regulating the balance of the hematologic and immune systems<sup>26)27)</sup>. In open pancreatic surgery, it has been revealed that SPDP is associated with a reduction in postoperative infectious complication, severe complications, and length of hospital stay compared with conventional distal pancreatectomy with splenectomy without the need for extending operative time or increasing operative blood loss<sup>26)-29)</sup>. Furthermore, additional advantages of splenic preservation were observed in the long-term follow-up survey, with better results in terms of fatigue and general condition<sup>29)</sup>. Despite the aforementioned advantages of splenic preservation, Lap SPDP has not been regarded as a mainstay of laparoscopic distal pancreatectomies because of its technical difficulty: that is, the delicate vascular dissection from the pancreas, which is associated with a substantial risk of bleeding<sup>30)</sup>. In the present case, we adopted Lap SPDP after comprehensively considering the following points: type of tumor, no radiological findings of adjacent organ invasion, and postoperative quality of life.

In conclusion, we herein reported an initial case of a Lap SPDP procedure performed for a metastatic pancreas tail tumor from a malignant melanoma. This technique is feasible as long as under careful identification of the posterior pancreatic branches are carefully identified to prevent bleeding from the splenic artery and vein<sup>31)</sup>.

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