Surgical Treatment of Pancreatic Cancer

The Japanese Experience

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Summary

Since 1973, 194 patients with pancreatic carcinoma have undergone surgery in our clinic, including 134 with carcinoma of the head of the pancreas. Of these 134 patients, resections were performed on 61 (45.5%), 49 (36.6%) of whom underwent a curative resection based on macroscopic evidence. Seven of the patients who underwent macroscopic curative resection survived for five years, giving a five-year survival rate of 26.4% by the Kaplan-Meier method after excepting seven operative deaths. We compared the extent of pancreatic cancer by constructing survival curves according to the General Rules published by the Japan Pancreas Society. There was no statistical difference in survival based on tumor size or stage; however, there was a significant difference in the survival curves of so and se, being the absence or presence of the anterior capsule of the pancreas; rpo and rpe, being the absence or presence of invasion of the retroperitoneal tissue; ew(−) and ew(+), being the absence or presence of invasion at the surgical margin of resection; and n0 and n1, being the extent of lymph node metastasis. The results of this comparison suggest that extended radical pancreatectomy may be indicated for the treatment of pancreatic cancer, since the standard radical operation for pancreatic cancer may miss tumors that have spread to the retroperitoneum and extrapancreatic nerve plexus.

Key Words: Pancreatic cancer; extensive radical pancreatectomy; translateral retroperitoneal approach; postoperative surgical results; postoperative nutritional disturbance.

INTRODUCTION

A number of reports recommend total pancreatectomy and the excision of lymph nodes and lymphatic vessels for the radical cure of pancreatic carcinoma (1,2). On the other hand, en-block resection of the invaded portion of

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Fig. 1. Policy for resection of pancreatic carcinoma. a. The area of extensive radical surgery by the translateral retroperitoneal approach. b. The line of pancreatic resection.

the portal vein and superior mesenteric vein is actively performed in order to remove the regional extension of pancreatic cancer affecting the adjacent major blood vessels. In 1973, Fortner (3) succeeded in end-to-end anastomosis after resection of the portal vein. We also developed a translateral retroperitoneal approach (TRA) that facilitated combined portal resection (4,5) and have performed this procedure on pancreatic carcinoma since 1973.

This article describes the problems associated with the surgical results and indication of extensive radical surgery for pancreatic carcinoma in a comparison of its extent and prognosis.

MATERIALS AND METHODS

The elements of extended radical pancreatectomy by the translateral retroperitoneal approach (TRA) include complete excision of the lymph nodes and nerve plexus of the trunks of both celiac axes and the superior mesenteric artery. Adequate lymphadenectomy requires wide retroperitoneal dissection of the retroperitoneal nodes from the peripancreatic and adrenal glands above to the iliac bifurcation below. The extent of the pancreatectomy depends upon the site of the cancer: for localized cancer of the head, the pancreas is transected from the left of the celiac artery, in combination with a resection of the portal vein. For nonlocalized cancer of the head, a total pancreatectomy together with resection of the portal vein is performed (Fig. 1). In all cases, the TRA facilitates an adequate lymphadenectomy.

Since 1973, 194 patients with pancreatic cancer underwent surgical exploration, 134 of whom had cancer of the head of the pancreas. Cystadenocarcinoma, islet carcinoma, and carcinomas of the inferior bile duct and papilla of Vater were not included in this study. These 194 patients comprised 133 men and 61 women, and at the time of operation, their ages ranged between 31-82 yr, the mean being 62.9 yr. One hundred and thirty-four patients had