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Pancreaticogastrostomy for pancreatic body cystic neoplasms: An organ-sparing approach

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ABSTRACT

INTRODUCTION: Surgical management of pancreatic cysts differ according to the specific location of the cyst on the pancreas. Cysts located on the pancreatic head require a radical procedure such as pancreaticoduodenectomy (Whipple procedure). Cysts of the pancreatic body or tail, however, require distal pancreatectomy as the standard surgical approach. An alternative surgical approach for cysts located in the mid-pancreas is central pancreatectomy with distal pancreaticogastrostomy.

PRESENTATION OF CASE: In this report, we present a case of a 22-year-old woman with a cyst located on the mid-pancreas consistent with a solid pseudopapillary neoplasia. Central pancreatectomy with distal pancreaticogastrostomy was the surgical technique of choice performed in this case.

DISCUSSION: Central pancreatectomy has emerged as an alternative surgical approach to mid-pancreatic cysts which includes only the removal of a segment of the pancreas, thereby sparing the distal parenchyma. Compared with the traditional approach, this technique of partial resection of the pancreatic tissue is desirable due to its organ-sparing function.

CONCLUSION: Central pancreatectomy with distal pancreaticogastrostomy can be an alternative to distal pancreatectomy for cysts located in the mid-pancreatic region. This rare procedure prevents any unnecessary healthy pancreatic tissue loss, reduces the risk of developing complications, and is an alternative treatment of choice to distal pancreatectomy.

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1. Introduction

Cysts and tumors of the pancreas can be problematic given their nature of evolving into a malignant lesion. Because of this fact, even some benign pancreatic cysts require surgical intervention to prevent such progression. Various surgical procedures are available depending on the location of the lesion. These include pancreaticoduodenectomy (Whipple procedure), distal pancreatectomy, and central pancreatectomy. Central pancreatectomy, rather than pancreaticoduodenectomy or distal pancreatectomy, have become the surgical choice of interest for benign lesions of the pancreas limited to the pancreatic body [4,6,7]. This is because such surgical procedure allows for organ tissue preservation and reduction of complications such as diabetes mellitus and exocrine pancreas gland insufficiency, while still maintaining high oncologic efficiency [1,3,6]. In this case report, we present a patient with a benign centrally located pancreatic cyst under-

going central pancreatectomy with distal pancreaticogastrostomy procedure.

2. Presentation of case

A 22-year-old woman presented to the general surgery department with complaints of vague upper abdominal pain for several weeks in length. She denied nausea, vomiting, fever, and weight loss. No other symptoms were present. Past medical history and surgical history was unremarkable. Upon admission to the hospital, the physical examination of the patient was unremarkable. Hemogram and routine biochemistry laboratory results were normal except for an AST level of 43.1 IU/L (normal is <32 IU/L) and an amylase level of 155 U/L (normal is 28–100 U/L). Serum electrolyte levels were normal. HbA1c level was 5% (normal is 4.8–6.0%) and 31.15 mmol (normal is 29–42 mmol). Urinalysis revealed bacteriuria and hematuria. Viral serology was negative and tumor markers were within the normal limits. Abdominal CT revealed a 2 × 2 cm cystic lesion on the mid-pancreatic region, adjacent to celiac bifurcation, and the pancreatic ducts were not dilated. Biopsy with endoscopic ultrasound revealed solid pseudopapillary neoplasia. During the operation, the 2 × 2 cm lesion was resected with central pancreatectomy and distal pancreaticogastrostomy was performed

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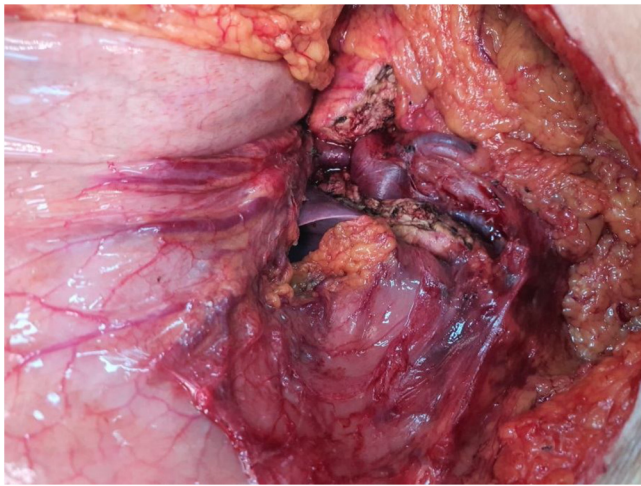


Fig. 1. Central pancreatectomy with distal pancreaticogastrostomy.

(Fig. 1). The pathology of the resected specimen was consistent with solid pseudopapillary neoplasia.

During the post-operative period, the patient had fever of several days in length. The laboratory results were unremarkable except for an increase in d-dimer and fibrinogen levels. Because of the on-going coronavirus disease (COVID-19) pandemic, the patient was radiologically and immunologically tested. CT of the thorax showed a 3.5 cm pleural effusion in the left hemithorax along with a compressive atelectasis. COVID-19 Polymerase chain reaction (PCR) test of the patient resulted in a positive test result and the patient was admitted to the COVID-19 patient ward four days after surgery.

3. Discussion

The surgical management of pancreatic cysts and neoplasms varies depending on the location of the lesion on the pancreas. Due to its location, there is controversy regarding the surgical approach to non-cancerous pancreatic tumors located in the pancreatic body. Distal pancreatectomy operation is often performed for pancreatic body and tail tumors [8]. Although it is more challenging to perform, an organ-sparing central pancreatectomy approach to non-cancerous pancreatic tumors should be considered in the surgical management in order to reduce serious complications such as diabetes mellitus and exocrine gland insufficiency, and also to preserve health organ tissue [1,5,6]. Hence, central pancreatectomy with pancreaticogastrostomy is a rare technique for mid-pancreatic cysts and is an alternative to pancreticoduodenectomy or distal pancreatectomy with better functional tissue reserve [2].

4. Conclusion

Distal pancreatectomy is the surgical operation of choice for cysts located on the body of pancreas. Although it can be curative, this option results in the loss of healthy distal pancreas tissue. Central pancreatectomy, as seen in this case report, is an alternative surgical operation of choice where the remaining distal pancreas is anastomosed to the stomach, resulting in the preservation of healthy pancreatic tissue which minimizes the risk of developing complications.

This study has been reported in line with the SCARE 2018 criteria [9]. Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Declaration of Competing Interest

Authors have no conflicts of interest to declare.

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Author contribution

Mehmet Faik Ozcelik: Case report concept.

Orhan Orhan: Case report concept and interpretation.

Ergin Erginoz: Case report concept and interpretation, writing the paper.

Sinan Carkman: Case report concept.

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