CASE REPORT

Median Pancreatectomy Done in a Rural Medical College – A Case Report

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Abstract Median pancreatectomy (MP) has gained popularity in the past decade as treatment of choice for benign and low-malignant potential tumor in the mid-pancreas due to its ability to achieve optimal preservation of pancreatic parenchyma. MP is a safe and effective alternative to major pancreatic resection in selected patients with benign or low-malignant lesions of the pancreas. This paper reports a case of successful MP done for a lesion at the junction of neck and body of pancreas in a rural medical college in India. Post-operative follow up for 2 years showed complete relief of abdominal symptoms with good exocrine and endocrine function.

Key Words Median pancreatectomy · Major pancreatic resection · Benign or low-malignant lesions of the pancreas

Introduction

Standard pancreatic resection procedures such as pancreaticoduodenectomy and distal pancreatectomy are burdened with the risk of post-operative exocrine and endocrine insufficiency due to loss of healthy pancreatic parenchyma, as well as complications connected with splenectomy (in case of distal resection). Median pancreatectomy (also known as central pancreatectomy, middle segment pancreatectomy or function preserving pancreatectomy) consists of excision of the middle segment of the pancreas followed by gastrointestinal reconstruction of both proximal and distal stump of pancreas,

with pancreaticogastric anastomosis [1, 2]. The main goal of MP is the preservation of good long-term functional results after MP, suggesting that not only the preservation of pancreatic parenchyma but also of the duodenum may play a key role in maintaining pancreatic exocrine and endocrine function.

Case Report

A 41 year old lady without any significant past medical illness or history of alcohol intake or smoking presented to the OPD with complaints of vague upper abdominal pain of 2 months duration. Patient was initially evaluated with an ultrasonogram which showed a pancreatic mass of size 5 × 4.5 cm. Investigation revealed normal blood counts, blood sugar, serum amylase and lipase, and Ca 19–9. Upper GI endoscopy was normal. Contrast enhanced CT abdomen showed a ‘well defined homogenously intensely enhancing hypodense lesion at the junction of neck and body of pancreas with mass effect on adjacent vessels and closely abutting liver’. (Fig.1)

With informed consent from the patient a MP was planned. Through an upper midline incision, laparotomy was performed, lesser sac was entered, the gastrocolic ligament divided, and the stomach retracted cephalad. The pancreas was identified and lesion localized. It was a well circumscribed mass lesion of size 5 × 4.5 cm at the junction of neck and body of pancreas (Fig.2). The pancreas was then elevated off the superior mesenteric vein and portal vein and divided. The distal pancreas was then dissected out of the retroperitoneum and away from the splenic vein and artery. The pancreas was then divided on either side of the lesion with margin of more than 1 cm, and the specimen sent to the pathology department. Following pathological analysis of the specimen and confirmation of negative margins, the proximal pancreatic stump was closed with horizontal mattress sutures. The pancreatic

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Fig. 1 Contrast enhanced CT abdomen showing the hypodense lesion at the junction of neck and body of pancreas

duct was identified and ligated. The distal pancreas and spleen were preserved. The distal pancreatic stump was then anastomosed to the posterior wall of stomach. Drains were placed near the anastomosis and pancreatic remnant [3]. Post operatively, the patient did not develop any complication. After follow up at intervals of 6 months, 1 year and 2 years, patient had no evidence of diabetes or exocrine dysfunction. Histopathological examination reported microcystic cystadenoma of the pancreas. (Fig. 3).

Discussion

Increased use of high-resolution cross-sectional imaging modalities such as CT and magnetic resonance imaging has resulted in the detection of many benign and borderline pancreatic lesions. As many of these lesions are noninvasive at the time of discovery, parenchymal-sparing techniques may be beneficial to preserve endocrine and exocrine pancreatic

Fig. 2 Pancreatic mass at the junction of neck and body of pancreas

Fig. 3 Histopathological examination showing microcystic cystadenoma of the pancreas

functions. Allendorf et al. reported no case of impaired exocrine function and only two cases of abnormal endocrine function among 26 patients who underwent MP [4]. Another advantage of MP is the possibility of preserving the spleen, preventing the risk of post splenectomy sepsis and hematologic disorders which is low but exists in an adult.

The first MP with 2 pancreaticoenteric anastomoses was described by Guillemin and Bessot in 1957 in a patient with chronic pancreatitis [5]. The first MP for a neoplasm was done by Dagradi and Serio, who performed one in 1984 to remove a benign insulinoma [6]. The underlying indications for MP ranges from benign lesions to mass lesions with uncertain behavior, or low-grade malignant exocrine and endocrine neoplasms [2]. Compared to pancreaticoduodenectomy and extended distal pancreatectomy, MP has been found to have comparable post-operative morbidity and mortality rate while having a better post-operative nutritional status and an excellent long-term functional outcome [7]. Hence, this procedure is best indicated for benign or low-grade malignant lesions in young patients who will benefit from preservation of the exocrine and endocrine pancreas [7, 8, 9].

Conclusion

The purpose of this article is to report that median pancreatectomy is a safe and function preserving alternative to standard pancreaticoduodenectomy and extended distal pancreatectomy even in low volume centers, if the surgeons are experienced in pancreatic surgical procedures. Considering that many patients are diagnosed with benign and border line malignant tumors, one should keep in mind the possibility of median pancreatectomy as a healthy pancreatic parenchyma

and endocrine sparing procedure, without disruption of enteric continuity.

Compliance with Ethical Standards

Conflict of Interest The authors declare that there is no conflict of interest regarding the publication of this article.

Statement of Human Rights This study has been approved by the institutional ethics committee and has been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki.

Informed Consent The study was carried out after obtaining written informed consent from the patient.

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