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Case Report

Laparoscopic cystogastrostomy

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ABSTRACT

Pancreatic pseudocysts (PPs) are collections of pancreatic secretions that are lined by fibrous tissues and may contain necrotic debris or blood. The interventions including percutaneous, endoscopic or surgical approaches are based on the size, location, symptoms and complications of a pseudocyst. With the availability of advanced imaging systems and cameras, better hemostatic equipment's and excellent laparoscopic techniques, most pseudocysts can be found and managed by laparoscopy. We describe a case of a 24-year-old male patient with a pancreatic pseudocyst amenable to laparoscopic cystogastrostomy. An incision was made through the anterior gastric wall to expose the posterior gastric wall in close contact with the pseudocyst using a spinal needle aspiration guidance. Then, another incision was made for cystogastrostomy to obtain complete and unobstructed drainage. The patient recovered well after operation, suggesting that laparoscopic cystogastrostomy is a safe and effective alternative to open cystogastrostomy for minimally invasive management of pseudocyst pancreas.

Keywords: Pseudocyst, Laparoscopic cystogastrostomy, Sutured repair, Pancreas

INTRODUCTION

Pancreatic pseudocysts (PPs), common sequelae of acute or chronic pancreatitis and trauma, are fluid collections arising in or adjacent to the pancreas enclosed by a wall of fibrous granulation tissue, but lacking a true epithelial lining.[1] Interventions indicated for symptomatic, large (>6 cm in diameter), complicated and persistent (>6 week) PPs, include percutaneous, endoscopic or surgical approaches.[2] With the advent of minimally invasive techniques such as cystogastrostomy, cystojejunostomy and cystoduodenostomy, laparoscopy plays a great role in the management of PPs.[3] Moreover, laparoscopic cystogastrostomy has been described as a safe and efficacious alternative to open drainage of PPs in adults.[4]

We report, in this paper, a case of a patient with a pancreatic pseudocyst caused by the acute pancreatitis, who underwent the intragastric laparoscopic cystogastrostomy

CASE REPORT

A 24-year-old male, known alcoholic came with complaints of pain abdomen and distention of epigastrium.

CECT done which showed 12×10×11 cm cyst behind stomach noted. Thickness was 8 mm and cyst was in close proximity with stomach.

Procedure

Under GA-patient positioned in leg spread position, legs separated and surgeon stood between legs. Ports placed. Anterior wall of stomach cut using bipolar vessel sealer. Posterior wall cut using spinal needle aspiration guidance, which revealed milky white content. Hook used to open the posterior wall. Cyst entered. Contents evacuated. Posterior wall closed with running suture. Anterior wall closed in 2 layers. Abdominal drain placed. Patient was kept NPO for 3 days.

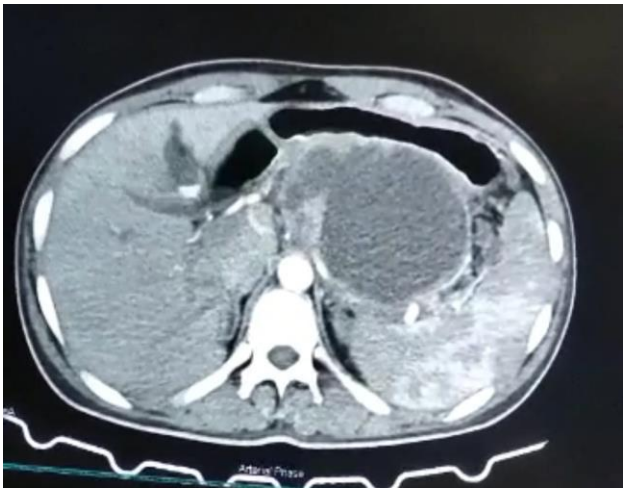

Figure 1: CECT abdomen and pelvis (intravenous contrast) showing cystic lesion in the head and body of pancreas Located just behind the posterior wall of stomach.

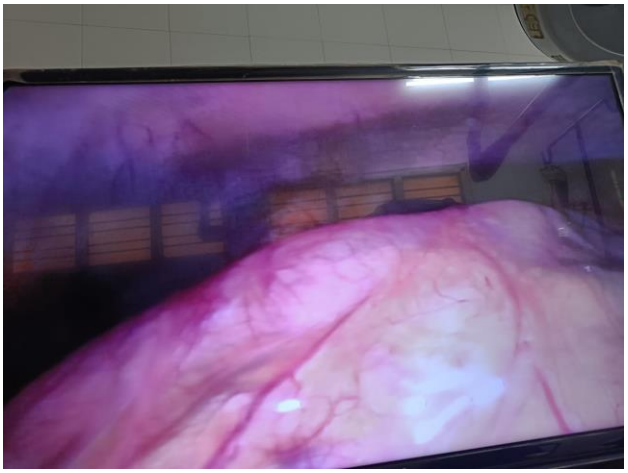

Figure 2: Laparoscopic view of abdomen - anterior wall of stomach is more prominent because of the huge pseudocyst behind.

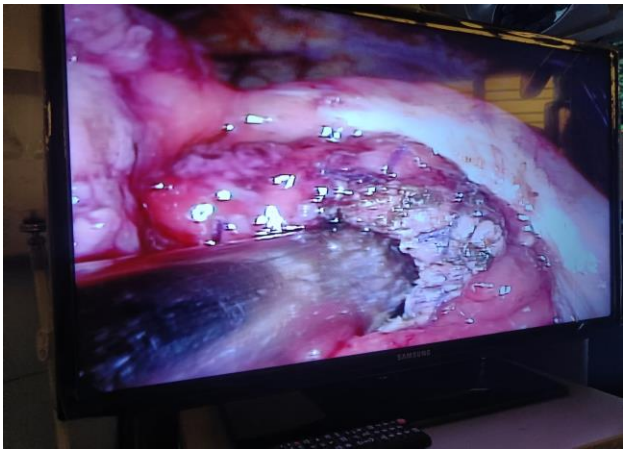

Figure 3: Posterior wall of stomach and anterior wall of pseudocyst sutured with vicryl 1.0, in continuous manner. Anastomosis was patent and secure.

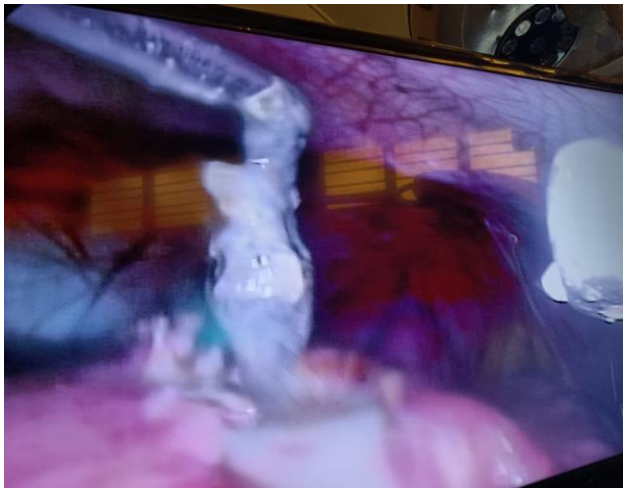

Figure 4: Necrosum evacuated from the cyst, which is the product of enzymatic destruction from pancreatic juice.

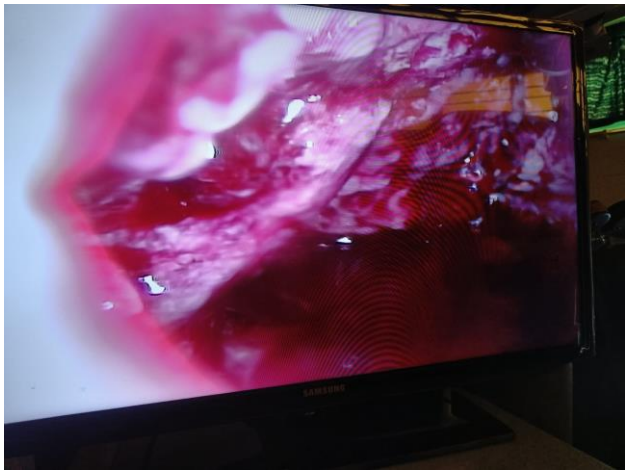

Figure 5: Inside view of pseudocyst, smooth surface free from necrosum. After complete inspection, anastomosis performed.

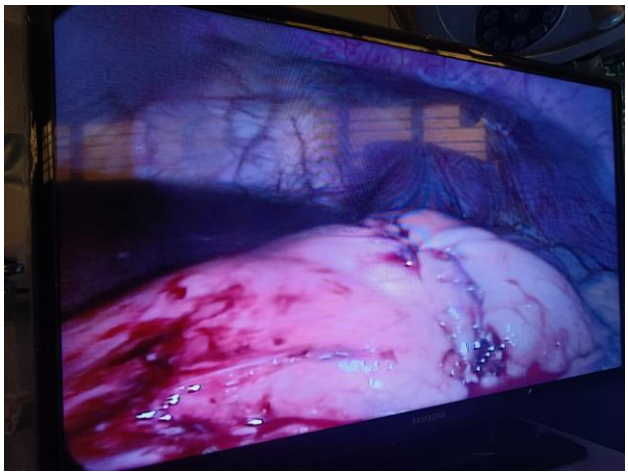

Figure 6: Anterior wall of stomach closed in two layers with vicryl 1.0. It was airtight, ryles tube insufflation done to check the anastomosis.

Figure 7: Port position with drain placement done to avoid leak and dehiscense. Patient discharged on day 5. Drain removed with no leak.

DISCUSSION

PPs occur in 2-10% of patients after acute pancreatitis and in about 10-30% of patients after chronic pancreatitis, and can be treated with different procedures. In general, spontaneous regression of small asymptomatic PPs may be observed in 30-60% of acute pancreatitis patients. Conservative management with bowel rest and parenteral nutrition increases the likelihood of spontaneous regression. However, a large number of patients with PPs need interventions. Factors determining the route and time of intervention include location, size and persistence of the cyst, maturity of the cyst wall when the patient presents with symptoms presence or absence of complications availability of local expertise and experience.[1-4] Generally, indications for intervention of PPs include >6 cm in diameter, >6 week in persistance, symptoms (including epigastric pain, nausea, vomiting, biliary obstruction, and duodenal obstruction), complications (including infection, hemorrhage, rupture) and matured wall.[5,6]

Intervention options for treatment include percutaneous, endoscopic, and surgical procedures. Percutaneous drainage of PPs is a procedure of choice for infected and obstructed pseudocysts with an immature wall.[7] It is also used in situations where definitive internal drainage could not be done. However, this procedure seems to have a high risk of recurrence or development of pancreatic percutaneous fistula. Furthermore, percutaneous drainage is inadequate in many cases because of thick viscous contents, which may cause luminal obstruction of drainage catheters. Endoscopic drainage in the presence of endoscopic ultrasound (EUS) is an important procedure in the management of pseudocysts, especially cysts indenting the stomach or duodenum and in the absence of necrotic tissue.[7] However, endoscopic drainage is associated with a high rate of technical failure, cyst recurrence, infection, bleeding, stent blockage, and inadequate drainage. Aljarabah et al hold that endoscopic drainage is more suitable for chronic PPs within the head and body of the gland, whereas acute PPs, particularly those that complicate necrotizing pancreatitis, are best managed with laparoscopic surgery where expertise is available.[8] Laparoscopic drainage of mature PPs is minimally invasive and offers definitive drainage. Laparoscopic procedures for PPs include pancreatic cystogastrostomy, cystoduodenostomy, and cystojejunostomy.[9] Few studies compared the laparoscopic procedures by analyzing their advantages and disadvantages, and concluded that when the pancreatic cyst is located in close contact with the posterior wall of the stomach, it is best drained with the anterior procedure.[10,11]

CONCLUSION

Laparoscopic cystogastrostomy is a feasible and less invasive alternative to conventional cystogastrostomy. Usually, posterior layer is closed with ENDO GI staplers, which is costly and not available in rural setup. Suturing the posterior layer requires dexterity, and advanced suturing skills, its cost effective and secure.

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Ethical approval: Not required

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