Combined Laparoscopic Cholecystectomy And Drainage Of Pancreatic Pseudocyst: A Case Report And Review Of Current Management

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SUMMARY

Pancreatic pseudocyst is a well recognized complication of acute or chronic pancreatitis. Active treatment (surgical or endoscopic) has been recommended if the pseudocyst persists for more than 6 weeks after the diagnosis. Open trans-abdominal drainage was initially the mainstay treatment for it. However, over the past decade, laparoscopic techniques have been developed to provide patient with minimal access alternative. We report a case of a large symptomatic pseudocyst which developed following attack of severe gallstone pancreatitis. Laparoscopic cholecystectomy and cysto-gastrostomy were done at the same sitting. The operative technique is briefly explained.

KEY WORDS:
Pancreatitis, pseudocyst, laparoscopic, percutaneous, endoscopic drainage

INTRODUCTION

Pancreatic pseudocyst (PP) is a well recognized complication of acute or chronic pancreatitis and is typically enclosed by a wall of granulation tissue which lacks a true epithelial lining. It occurs in 2-10% and in 10 - 30% of patient after acute or chronic pancreatitis respectively. Up to 85% of PP spontaneously resolve within 4 – 6 weeks [1]. Active treatment is recommended if the PP persists beyond 6 weeks after the diagnosis, the size is larger than 6 cm and it is symptomatic. In such instances complications such as rupture, infection or bleeding can be as high 30 -50% and the probability of spontaneous resolution is very low [2].

Although open drainage has long been treatment of choice, minimally invasive techniques have been developed including endoscopic and laparoscopic approaches [1]. In recent years, laparoscopic drainage has gained popularity due to favourable results and the added advantages of minimally invasive approach. A case of symptomatic pancreatic pseudocyst developed following severe gallstone pancreatitis is discussed.

CASE REPORT

A 37 year old lady presented with sudden and severe epigastric pain which radiated to the back and associated with nausea and vomiting. Her vital signs were normal but her abdomen was guarded mostly at the epigastric area. Her serum amylase was 825 IU and she had a Ranson's score of 4 with CRP level of 271.9 mg/dl. She was managed in our high dependency unit (HDU) as severe acute pancreatitis. A contrast CT scan of the abdomen done 3 days later revealed a gallstone, pancreatic oedema with an extensive peri-pancreatic fluid collection. No obvious features of pancreatic necrosis were documented. She responded well to conservative management and was discharged a week later. During her follow up 3 weeks later, she had features of gastric outlet obstruction; such as recurrent nausea, vomiting and early satiety. Symptomatic peripancreatic fluid collection was suspected which subsequently confirmed by a CT scan which revealed a large retrogastric type of pseudocyst (Figure 1). She was then planned for laparoscopic cystogastrostomy and cholecystectomy 3 weeks later.

Techique of laparoscopic cystogastrostomy:
Four trocars were used; supra-umbilical, right and left hypochondrium and at the right subcostal area for a retractor. Location of the PP is confirmed prior to creation of gastrotomy.

An ultrasonically activated scapel was used to create a 5 cm anterior gastrotomy. Edge of the stoma was opposed onto the anterior stomach wall with multiple interrupted sutures (figure 2). A long spinal needle was then used to confirm the location of the pseudocyst and sample the fluid.

A stitch was made at the summit of a cyst incorporating both post stomach and anterior cyst wall to fascilitate creation of the stoma. A cysto-gastrostomy was then created using harmonic scapel for 2 cm which was then extended by a linear cutter. The total length of stoma was about 5 cm. The cyst cavity was irrigated and necrotic tissue removed (Figure 2). Part of cyst wall excised for histological examination. The anterior gastrostomy was subsequently closed with interrupted absorbable sutures (vicryl 2/0).

Following that, a cholecystectomy was done. Another 12 mm trocar was inserted at the epigastric area to fascilitate gall bladder dissection.

At 6 and 12 months follow up, she remained asymptomatic and no recurrence was noted on ultrasound.

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Fig. 1 : CT scan shows a large retrogastric pancreatic pseudocyst.

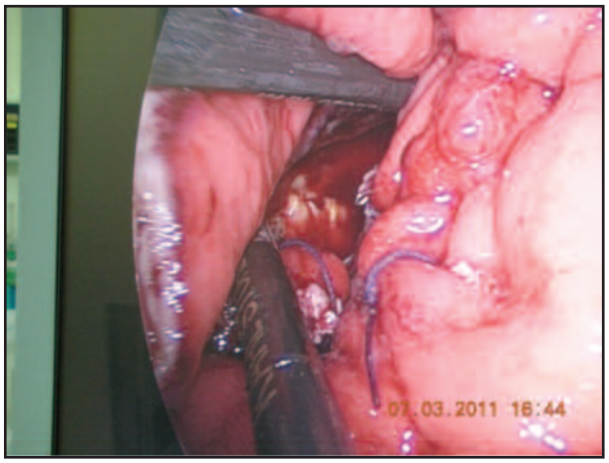

Fig. 2 : Laparoscopic view of a stoma created between posterior wall of the stomach and pseudocyst. Part of the necrotic debris was also seen within the cyst.

DISCUSSION

It is agreed that acute and chronic PP have different natural histories and therefore it is important to differentiate them prior any intervention. Endoscopic drainage is more suitable for chronic PP especially those located at head or body of pancreas. PP developed following an acute necrotizing pancreatitis is best managed with surgery (open or laparoscopy). If the latter were to be managed endoscopically, it is associated with failure to drain in 15%, morbidity of 13% and recurrence rate of 10% [4].

As in our case, surgical drainage was the best approach as the PP developed following severe acute pancreatitis. Moreover, cholecystectomy can also be done concurrently. During surgery, by either open or laparoscopic technique, an anastomosis is created between posterior wall of stomach and pseudocyst. Various techniques have been described for surgical drainage such as cyst-gastrostomy (endogastric or transgastric), exogastric approach (through lesser sac) and cyst-jejunostomy [1,3].

In general, both surgical and endoscopic drainage have high success rates (98% and 80% respectively) and low morbidity and mortality [1]. In a systematic review by Aljarabah and Ammori, comparing surgical and endoscopic drainage, the success rate was higher in surgical drainage (98% vs 80%) as the latter is able to create wider stoma for drainage (4 – 5 cm length) together with ability to debride the necrotic tissue within the PP. Unfortunately, these two important principles cannot be provided with endoscopic approaches. In addition to that, procedure related complications were more common with endoscopic approach such as sepsis, bleeding and blocked stent [1].

Battacharya et al, in their systematic review comparing open to laparoscopic drainage, found the latter was associated with lower morbidity, rapid recovery and recurrences comparable to open surgery [5]. Laparoscopic cystogastrostomy was associated with very low morbidity (3.3%), median post operative stay of 2 days and recurrence rate of only 6.7% at 15 months follow up [3].

Aljarabah and Ammori in their systematic review of 19 laparoscopic and 25 endoscopic series suggested that, endoscopic drainage is also not suitable for PP with wall of > 1 cm, located at the tail of pancreas which developed following acute necrotizing pancreatitis. They should be offered a laparoscopic approach [1]. Until now, there is still lack of prospective randomized trials comparing either endoscopic versus surgical or laparoscopic versus open approach for PP.

CONCLUSION

Laparoscopic drainage plays a major role in surgical management of PP and associated with an excellent outcome. It fascilitates debridement of necrotic material within the cyst. Despite of low morbidity or mortality following either endoscopic or surgical approach, the latter has a higher success rate and more versatile irrespective of type and location of pseudocyst.

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