Case Report

An unusual presentation of giant pancreatic pseudocyst in the parietal wall

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ABSTRACT

A true cyst is a localized fluid collection covered by a capsule lined by epithelium, whereas, a pseudocyst does not consist specific lining of cells. We report one such case of a 37-year-old gentleman with giant pancreatic pseudocyst in the anterior abdominal wall which had developed secondary to acute necrotizing pancreatitis. A contrast-enhanced computed tomography scan showed a pseudocyst in the lesser sac and left pre-renal fossa. He was planned for exploration but within a month, he was at the emergency with yet another episode of gastric outlet obstruction with a huge hypogastric swelling compressing the stomach. The patient was resuscitated and immediately posted for exploratory laparotomy. To the surprise of surgeons, the lump was just below the umbilicus with whatsoever no relation with the pancreas. However, the expert opinion of the histopathologists suggested it to be a pseudocyst.

Key words: Acute pancreatitis, Anterior abdominal Wall, Cystogastrostomy, Giant pancreatic pseudocyst

Acute pseudocysts are located most often in close proximity to the pancreas, especially in the lesser sac but can be found in the pelvis, scrotum, mediastinum, or thorax. The overall incidence of pancreatic pseudocyst is about 0.5 to 1 per 100,000 persons a year [1]. In cases of acute pancreatitis, pseudocysts are reported in 6–36% of cases secondary to gallstones, 3–8% of post-operative or post-traumatic cases, 6–20% of idiopathic pancreatitis, and rarely after pancreatitis secondary to hyperlipidemia [2]. Usually, the treatment is delayed beyond 6 weeks where most of them spontaneously resolve. In the case of large and complicated cysts, surgical drainage offers the best results with the lowest morbidity and mortality followed by laparoscopy and endoscopy. A pseudocyst with the widest diameter of 10 cm or more is termed a giant cyst [3].

Here, we present a rare presentation of a giant pseudocyst to emphasize the unusual location of the cyst and open surgical excision as the only treatment modality.

CASE REPORT

A 37-year-old gentleman, a chronic alcoholic with no comorbidities and no past surgeries, presented with recurrent episodes of severe pain and swelling in the lower part of the abdomen associated with nausea and vomiting. He was immediately admitted and resuscitated. There was a history of two similar episodes of abdominal pain with features of obstruction in the past for which he was admitted at our hospital and had undergone conservative treatment. The first such episode was 2 months back when he was diagnosed with acute pancreatitis upon preliminary clinical and laboratory investigations and was managed conservatively and discharged in hemodynamically stable condition. The patient had a similar episode of abdominal pain 3 weeks after the first episode which was associated with vomiting and abdominal distension.

On examination, he was tachycardiac with a blood pressure of 110/70 mmHg, afebrile, and dehydrated. He was admitted and resuscitated without delay and on conservative management, recovered well. On local examination, an epigastric lump was noted. The head rising test was suggestive of an intra-abdominal origin. On deep palpation, a non-tender lump was palpable with ill-defined margins and firm in consistency. Laboratory investigations showed amylase – 760 IU/L and lipase – 1080 IU/L. The liver function test was within normal limits. C-reactive protein was noted to be 62 mg/dl. His total leukocyte count was 18,300.

Computed tomography (CT) revealed normal sized liver and spleen and a gallbladder devoid of any calculus. The pancreas was noted to be mildly bulky and heterogeneous. The main pancreatic duct was not dilated. A large, elongated, bilobed, thick-walled, localized collection (13.6 cm × 11.2 cm × 0.6 cm) was noted in the anterior peripancreatic region extending to the lesser sac

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and the left pre-renal fossa associated with mild ascites (Fig. 1). Anterior abdominal wall showed no abnormality. The case was planned for elective explorative laparotomy and internal drainage of the cyst 6 weeks later if not resolves spontaneously by then.

This time, within a month of his second admission, he came to our emergency department with severe pain abdomen and vomiting. On general examination, the patient was tachycardiac (125/min), dehydrated, and hypotensive (90/60 mmHg) though afebrile. On abdominal examination, a swelling (Fig. 2) of about 20 cm × 12 cm was felt at the hypogastrium extending to the left iliac fossa, left lumbar, and the umbilical region. The swelling was oval with a smooth surface and firm consistency. It was non-tender to touch, not associated with any local rise of temperature, and was fixed to the underlying structures with no movement with respiration. All borders could be sharply determined. It was non-compressible and, on the leg, rising test, it was confirmed to be a parietal swelling. No neck veins were engorged nor were neck glands enlarged. Examination of the scrotum and testes was essentially normal.

The patient was resuscitated and given a trial of conservative management. We posted him for an exploratory laparotomy the next morning after resuscitation and correction of dehydration and electrolyte abnormalities. There was no provision for an overnight CT scan at our institute. The patient was put on nil per oral, intravenous fluids, intravenous broad-spectrum antibiotics, nasogastric suction, and per urethral catheterization with urine output monitoring. The abdomen was opened with a standard midline incision. On opening the subcutaneous plane, profuse pus came out and the firm mass was found to be just beneath the umbilicus. The cyst was solitary, isolated, apart from the adhesions to the parietal wall above the small bowel and descending colon below. Mild ascites was noted. Liver, spleen, hollow viscera-like stomach, and bowels were normal. The pancreas was heterogeneous and bulky. Contrary to the previous CT scan, the cyst had no relation or any adhesions to the pancreas. The whole pseudocyst was excised in toto without any bowel injury leaving a peritoneal defect. Thorough saline lavage was given and a drain was placed in the pelvis. The peritoneum was opposed and the abdomen was closed with delayed absorbable sutures with a vacuum suction drain in the subcutaneous space in the region where the cyst cavity was present.

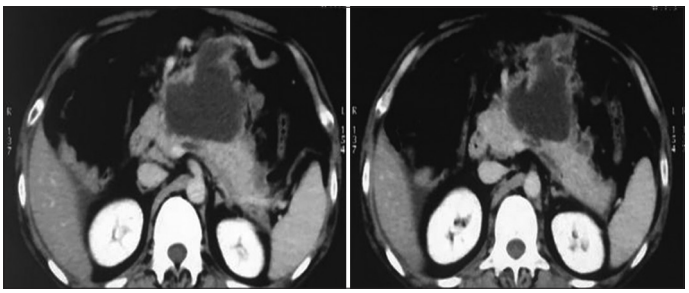

Figure 1: Computed tomography image of the heterogeneous pancreatic mass with a localized collection (13.6 cm × 11.2 cm ×0.6 cm) noted in the anterior peripancreatic region

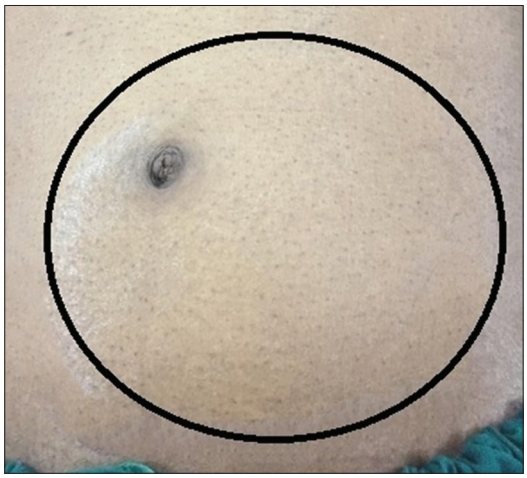

Figure 2: Pre-operative image of the abdominal lump

The microscopic examination from the cyst revealed features of pseudopancreatic cyst densely infiltrated by neutrophils and lymphocytes. There was no growth in the pus. The patient had an uneventful postoperative course. Oral diet was initiated from the post-operative day (POD) 2 and the drains were removed on POD 3. The patient was discharged home after 4 days in a hemodynamically stable condition. Skin sutures were removed after 10 days. The patient was followed up at 1st and 3rd months. He was doing well with no severe complaints and regular bowel and bladder habits.

DISCUSSION

According to the original Atlanta Classification, a pseudocyst was defined as a collection of pancreatic juice enclosed by a wall of fibrous tissue [4]. Acute pseudocysts are located most often in close proximity to the pancreas, especially in the lesser sac but can be found in the pelvis, scrotum, mediastinum, or thorax. Complications occur in about 10% of pseudocysts. The four most common complications of pseudocysts are infection, rupture, bleeding, or symptoms due to a mass effect. The pseudocyst described in the report can be classified as Type I D'Egidio as it occurred after an episode of acute pancreatitis and is associated with normal pancreatic duct anatomy, and rarely communicate with the main pancreatic duct [5]. The contents of the pseudocyst usually consist of relatively clear and watery fluid.

The two principal indications for treating pancreatic pseudocysts are to relieve symptoms and to treat complications. In the absence of symptoms, conservative management is usually reasonable. A natural history study from India indicates that asymptomatic pseudocysts <7.5 cm in diameter and without internal debris will resolve spontaneously on an average of 5 months [6]. Surgical treatment of pseudocyst includes derivation or resection depending on its location and nature [7]. Derivative surgery enables the creation of a permanent passage between the cyst and the digestive tract (stomach, duodenum, or jejunal loop). The most common method and our preferred technique is cystogastrostomy.

Percutaneous drainage can be performed under local anesthesia avoiding the need for monitored or general anesthesia; however, percutaneous drainage requires an external catheter

which compromises patients' quality of life, requiring daily care and maintenance, and may result in localized skin irritation [8]. It is associated with a high failure rate >30%, as it can lead to infection of the cyst, given that the drainage catheter has to be left *in situ* for long periods and does not always ensure complete emptying of the cyst. It is contraindicated if any communication between the pancreatic ducts and the cyst is suspected.

Endoscopic drainage enables the creation of communication between the cyst and the stomach. Small to moderately sized pseudocysts (<4–6 cm) that communicate with the pancreatic duct are good candidates for endoscopic transpapillary stenting. For larger lesions requiring transmural drainage, EUS guidance is preferable [9]. Nowadays, a laparoscopic approach is performed at various centers, and a transgastric gastrocysto anastomosis gets completed without complications. There is a case report of a 45-year-old lady arriving at the emergency with the same symptoms as this patient and with the laparoscopic approach, the patient recovered faster without complications [10].

The largest pancreatic pseudocyst in the literature (about 9500 mL) was reported in 1882. There are reports of pancreatic pseudocyst being drained of about the size containing as much as 7000 ml of fluid which was dealt with pancreatic necrosectomy, pseudocyst debridement, and cholecystectomy after CT-guided drainage of 3000 ml [11]. However, I have not found a single case report on the unusual presentation of pseudocyst like we have found in this case which presented as an isolated swelling away from the pancreas.

CONCLUSION

The case highlights the fact that endoscopic attempts, in this case, would have failed as the cystic collection was far away from the usual suspected sites. The presenting complaints however similar they were, there was a stark difference between the CT and intraoperative findings. As compared to open surgery, encouraging results have been reported for laparoscopy but long-term follow-up results were in favor of open surgery. Endoscopy is a valid alternative among patients where open surgery is contraindicated. A transpapillary drainage is a good option in cases where the pseudocyst communicates with the pancreatic duct. However, open surgery is still considered the gold standard for the treatment of most cases of pancreatic pseudocyst.

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