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A RARE CASE REPORT OF NON - PANCREATIC INTRA - PERITONEAL PSEUDOCYST

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Absract

Introduction:

Non-pancreatic pseudocysts are lesions usually arising from mesentery or omentum and are a rare occurrence. The internal content of these cysts could be blood, pus, serous or chylous fluid. In majority of the scenarios, causation of these cysts is related to trauma, surgery or infection. Pseudocysts related to pancreatitis occur in 5 – 15 % of patients who have peripancreatic fluid collection after an episode of acute pancreatitis. It takes at least 4 – 8 weeks for fibrotic reaction to develop and hence for the formation of cyst capsule which is composed of collagen and granulation tissue and is not lined by a true epithelial lining.

Case Presentation:

A 31 year old male presented in surgery OPD with chief complaints of gradually progressive abdominal distension associated with pain epigastrium for past 2 ½ months with intermittent vomiting for past 2 months. There was a positive history of addiction to alcohol, tobacco chewing, and opium.

On examination, there was a large ill-defined solitary swelling present in left side of abdomen extending approximately 6 cm above and 7 cm below the umbilicus. On head raising test swelling disappeared indicating intraperitoneal origin. USG whole abdomen revealed a large midline septated fluid collection extending from epigastrium to infra-umbilical region with heterogeneous internal echoes with few thin internal septations. CECT whole abdomen showed a large well-defined thick-walled fluid density cystic lesion in the peritoneal cavity few partial thin septations and was seen involving the omentum.

Conclusion:

Non pancreatic pseudocyst is a rare finding and one should be aware of this entity.

Keywords:

Pseudocyst, Non-pancreatic, Intra-peritoneal, Abdominal distention.

BACKGROUND

Non-pancreatic pseudocysts are lesions usually arising from mesentery or omentum and are a rare occurrence. The internal content of these cysts could be blood, pus, serous or chylous fluid. In majority of the scenarios, causation of these cysts is related to trauma, surgery or infection. In surgical scenarios, it is seen especially in cases of ventriculoperitoneal shunts, intraperitoneal dialysis catheter especially after infection, major pelvic surgery in pre-menopausal females with ovaries are demonstrated within the cysts[1], hernia surgery in which cause is due to peritoneal disruption. There can be symptoms like bowel obstruction, acute abdomen due to rupture, infection, bleeding, volvulus, or bowel ischemia.[2] The recommended treatment for non-pancreatic pseudocyst is total surgical excision. Complete excision of cyst is very crucial as there are chances of recurrence.[1]

Pseudocyst related to pancreatitis occur in 5 – 15 % of patients who have peripancreatic fluid collection after an episode of acute pancreatitis. It takes at least 4 – 8 weeks for fibrotic reaction to develop and hence for the formation of cyst capsule

which is composed of collagen and granulation tissue and is not lined by a true epithelial lining.

Up to 50% of the cases are symptomatic with common complaints of persistent pain possibly due to internal hemorrhage or infection, early satiety, nausea and weight loss due to mass effect. These are usually associated with elevated pancreatic enzymes. The diagnosis is usually made on computed tomography (CT) or magnetic resonance imaging (MRI). Observation is advised in asymptomatic cases. If symptomatic or not able to differentiate between cystic neoplasm and pseudocyst – intervention is done. [3]

CASE PRESENTATION

A 31 year old male presented in surgery OPD with chief complaints of gradually progressive abdominal distension associated with pain epigastrium for past 2 ½ months which was insidious in onset, non-progressive, intermittent, mild to moderate in intensity, non-radiating, dull aching in nature, had relieved by analgesics and with no aggravating factors. Patient also complained of associated intermittent vomiting for past 2 months which was green in color and was precipitated with intake of food. No significant history of bleeding per rectum, constipation, burning micturition, previous history of surgery, admission to hospital, trauma, contact with animals, jaundice, weight loss, loss of appetite was there. There was a positive history of addiction to alcohol, tobacco chewing, and opium.

On examination, a large solitary swelling was noted predominantly on left side of abdomen extending approximately 6 cm above and 7 cm below the umbilicus. The lateral extent was till anterior axillary line. Swelling was having ill-defined margins with soft to firm consistency. On head raising test, swelling disappeared indicating its intraperitoneal origin. On percussion, a dull note was observed.

The patient was then sent to radiology department for further evaluation. A USG whole abdomen with pelvis was requested which suggested a large midline septated fluid collection extending from epigastrium to infra-umbilical region with approximate size of 22 cm x 8.5 cm x 16 cm. There were heterogeneous internal echoes with few thin internal septations. No obvious solid component or papillary projections seen.

The further evaluation is done with CECT whole abdomen with pelvis which showed a large well-defined thick-walled fluid density cystic lesion in the peritoneal cavity measuring 16 x 8.4 x 19 cm with few partial thin septations and was seen involving the omentum. No obvious cyst wall or intracystic calcifications seen. Anteriorly, it was abutting the anterior abdominal wall and causing overlying skin bulge. Posteriorly, the lesion was closely abutting the jejunal and ileal loops and causing their luminal compression. Superiorly, it was abutting the transverse colon and splenic flexure. Inferiorly, it was abutting and displacing the ileal loops. Laterally, on left side it was abutting the descending colon. The fat planes with the above described structures were well preserved with no obvious features suggesting infiltration. Focally dilated distal ileal loops with maximum diameter measuring 3.6 cm were seen in pelvis with smooth proximal and distal tapering likely due to mass effect by the cyst. Differential diagnosis of large mesenteric cyst, peritoneal inclusion cyst and hydatid cyst were given based on imaging findings.

After all the pre - operative workup, an elective exploratory laparotomy and proceed was done under general anesthesia. On opening the abdomen, anterior wall of the cyst was adhered to anterior abdominal wall while the posterior wall was adhered to underlying bowel loops. Intra-operatively, approximately 1.0 – 1.5 Liters of hemorrhagic fluid was aspirated from the cyst and sent for cytology. Careful dissection of anterior and posterior wall of cyst was done while preventing damage to surrounding structures and was sent for histopathological examination. The histopathological examination revealed cyst wall made of fibro collagenous tissue infiltrated with mixed inflammatory cells compromising of neutrophils, lymphocytes, monocytes, occasional eosinophils and congested blood vessels. At places, cyst wall was hyalinized and showing myxoid degeneration suggestive of pseudocyst, but no definite epithelial lining was noted. The cytology revealed hemorrhage

only. Tumor marker carcinoembryonic antigen (CEA) value come out to be 1.15 ng/ml which was within normal range. (Normal range - < 5.0 ng/ml).

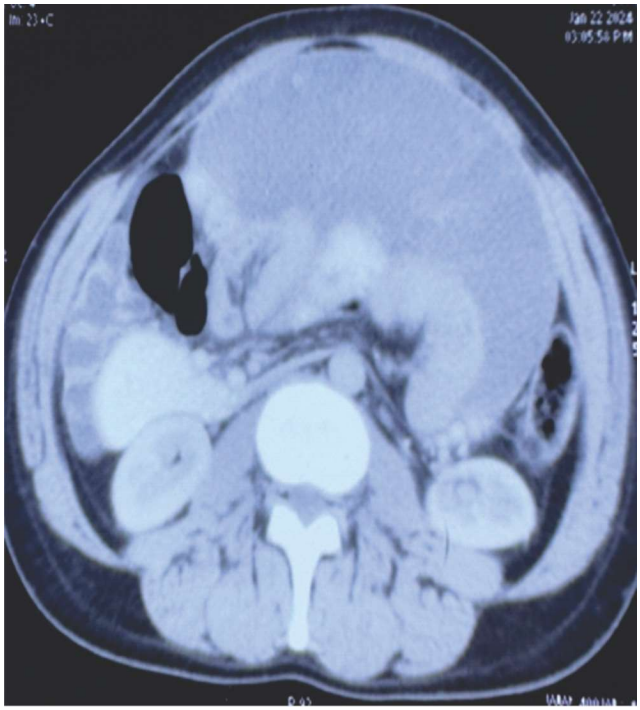


Fig 1. Axial view of CECT whole abdomen showing a large intraperitoneal thick walled hypodense cystic lesion causing focal bulge of anterior abdominal wall and compression over adjacent small bowel loops.

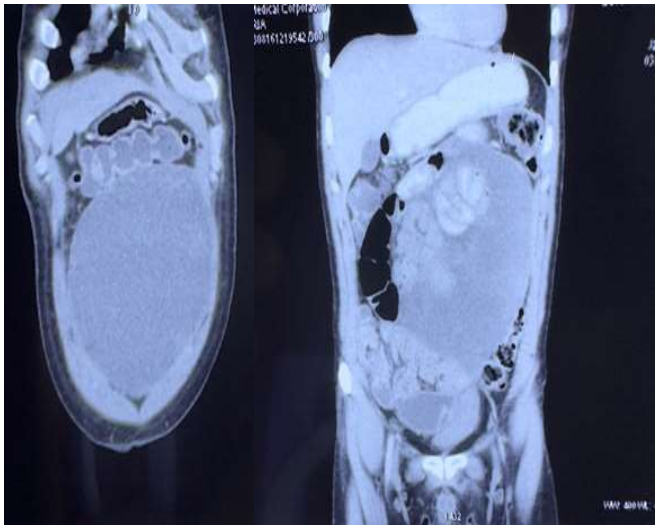


Fig 2. Coronal view of CECT whole abdomen showing relations of the cysts with transverse colon (left) and ascending & descending colon and small bowel loops. (right)

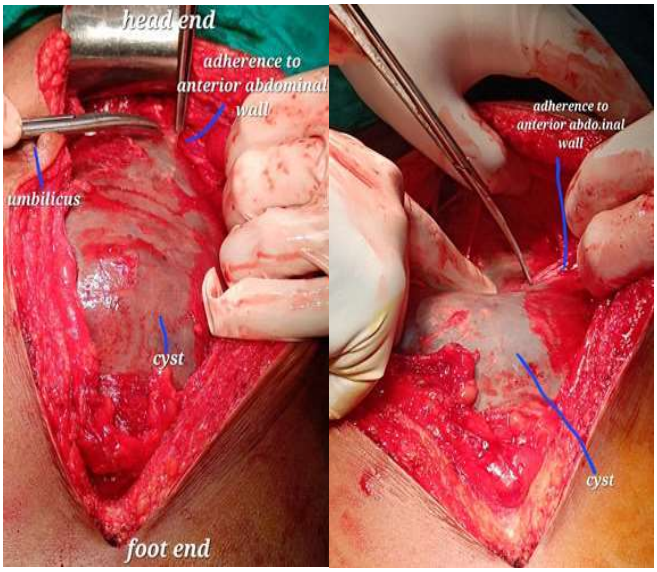


Fig 3. Intraoperative image: showing large intraperitoneal cyst adhered to anterior abdominal wall.

DISCUSSION

Non-pancreatic pseudocysts are lesions usually arising from mesentery or omentum and are a rare occurrence. The internal content of these cysts could be blood, pus, serous or chylous fluid. In majority of the scenarios, causation of these cysts is related to trauma, surgery or infection. In surgical scenarios, it is seen especially in cases of ventriculoperitoneal shunts, intraperitoneal dialysis catheter especially after infection, major pelvic surgery in pre-menopausal females with ovaries are demonstrated within the cysts[(1)], hernia surgery in which cause is due to peritoneal disruption. There can be symptoms like bowel obstruction, acute abdomen due to rupture, infection, bleeding, volvulus, or bowel ischemia.[(2)] The recommended treatment for non-pancreatic pseudocyst is total surgical excision. Complete excision of cyst is very crucial as there are chances of recurrence. [(1)]

Pseudocysts related to pancreatitis occur in 5 – 15 % of patients who have peripancreatic fluid collection after an episode of acute pancreatitis. It takes at least 4 – 8 weeks for fibrotic reaction to develop and hence for the formation of cyst capsule which is composed of collagen and granulation tissue and is not lined by a true epithelial lining. [(3)]

Mesenteric cysts can be congenital or acquired. The term "mesenteric cyst" means location of cyst rather than specific histopathological diagnosis. [1]

de Perrot and colleagues proposed a classification of mesenteric cysts based on its origin as follows: - 1) cyst of lymphatic origin; 2) cyst of mesothelial origin; 3) cyst of enteric origin; 4) cyst of urogenital origin; 5) mature cystic teratoma; 6) pseudocyst. Another way of classification as suggested by Beahrs et al. and Ros et al. as traumatic and nonpancreatic pseudocysts. The lining of mesenteric cyst is single layer of cuboidal or columnar epithelial cell which eventually can get destroyed due to pressure from the cystic fluid.[2] Therefore, the patient might be having mesenteric cyst also.

It is important to differentiate benign and malignant cystic abdominal lesions as management is dependent on the aggressive nature of the lesion.

Ours was a case of benign cyst as the cyst wall was well defined with preserved fat planes with surrounding organs and no obvious infiltration to adjacent structures seen. The tumor markers workup was normal and constitutional symptoms were absent in our patient. Other possible differential diagnosis is hydatid cyst but was ruled out due to absence of daughter cysts. Possibility of malignant cyst was ruled out as there were no supporting imaging features and histopathological examination later confirmed its benign nature.

The recommended treatment for non-pancreatic pseudocyst is total surgical excision which is achieved by enucleation, with or without segmental bowel resection, or partial cystectomy if needed as most of the instances the cyst wall is densely adhered to the adjacent organs. Procedures like marsupialization, debridement, partial excision are not commonly practiced as there is increased risk of recurrence, seeding of malignant cells or septic complications and hence considered inadequate. To minimize chances of recurrence the most important step is complete excision of the cyst wall. Another less invasive approach is laparoscopic cyst excision with advantage of early postoperative discharge, less pain, faster recovery where expertise is available. (1) Our patient underwent exploratory laparotomy and have intraoperative finding of cyst of non-pancreatic origin containing hemorrhagic fluid which come out to be pseudocyst on histopathological examination.

CONCLUSION

Alcoholic patient presented with abdominal lump which was intraperitoneal and non-pancreatic in origin. Non pancreatic pseudocysts are rare finding and one should be aware of this. This cyst can present with bowel obstruction, acute abdomen due to rupture, infection, intracystic bleeding, volvulus, or bowel ischemia.[2] The only treatment of this is total surgical excision while complete excision is crucial to minimize chances of recurrences from residual cyst. [1]

REFERENCES

1. Molla YD, Abraha AY, Belay YA, Alemu BA, Alemu HT, Abera SA. Giant intraperitoneal non-pancreatic pseudocyst: a case report. J Med Case Rep. 2024;18(1):212.
2. Oxenberg J. Giant Intraperitoneal Multiloculated Pseudocyst in a Male. Case Reports in Surgery. 2016;2016(1).
3. Townsend CM, Beauchamp RD, Evers BM, Mattox KL. Sabiston textbook of surgery: the biological basis of modern surgical practice, Twenty first edition. Elsevier. 2021:1540.