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ADULT FEMALE WITH CONCURRENT CALCIFIED MESENTERIC CYST AND JEJUNAL DIVERTICULOSIS- RARE CASE REPORT

General Surgery

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ABSTRACT

Diverticulosis is sac-like out pouching of the bowel wall. Small bowel diverticulosis is an uncommon condition. Jejunal diverticulosis is even more rare condition with incidence of only 18% of small bowel diverticulosis. Mesenteric cyst is a rare intraabdominal pathology with cyst occurring anywhere from duodenum to rectum and calcified ones are rarer condition with only small no.of cases reported in literature. Both the above mentioned conditions have non specific symptoms with variable spectrum of presentation. Both may present as an incidental finding or an acute abdomen such as perforation, obstruction or volvulus. Here, we present a case of 60 year old female who presented to Madras medical college with chronic vague abdominal discomfort and an episode of subacute intestinal obstruction. On further evaluation, she was found to have concurrent multiple jejunal diverticulosis with a calcified mesenteric cyst. After a period of 2 week, patient was taken up for exploratory laparotomy. Intraoperatively, multiple diverticulum was present in jejunum and firm whitish calcified cyst of size 5×5 cm jejunal mesentery . The cyst with 4 cm of jejunum was resected and anastomosis was done. Jejunal diverticula were normal with no e/o inflammation or perforation and it was left as such. The purpose of the case report is to alert the physicians about the vague non-specific complaints of diverticulosis and mesenteric cyst. They should be considered as differential diagnosis in patient presenting with chronic abdominal discomfort.

KEYWORDS

INTRODUCTION:

Diverticulosis is a clinical condition in which multiple sac-like protrusions (diverticula) develop along the gastrointestinal tract. Though diverticula may form at weak points in the walls of either the small or large intestines, the majority occur in the large intestine (most commonly the sigmoid colon). A mesenteric cyst is defined as any cyst located in the mesentery; it may or may not extend into the retroperitoneum, which has a recognizable lining of endothelium or mesothelial cell. Both the above mentioned conditions have non specific symptoms with variable spectrum of presentation. Both may present as an incidental finding or an acute abdomen such as perforation, obstruction or volvulus.

CASE REPORT:

A 60 year old female who is a known diabetic presented with the chief complaints of dull aching abdominal pain on and off for the past 1 month, no aggravating factors and relieved by taking medication. Patient complained of constipation × 3 day and vomiting 3 episodes × 2 days, not blood and bile stained. Patient also complained of obstipation for the past 1 day. On further examination, vital were normal and no tachycardia. On further examination, mild tenderness was present around the umbilicus, abdomen was soft with no distention. Cect abdomen with iv and oral contrast was taken which reported as well defined cystic lesion of size 4.2 × 4.1 × 4.3 cm with peripheral rim of calcification was noted in the transverse mesocolon, p/o calcified mesenteric cyst of transverse mesocolon .Evidence of contrast opacified out pouching noted arising from the mesenteric border of mid jejunum measuring 3×3×3.5 cm with neck measuring 1.5 cm with peri-lesional fat stranding, P/o jejunal diverticulum with diverticulitis.

Patient was started on IV antibiotics and put on conservative management for subacute obstruction and patient passed stools the following day After 10 days course of antibiotics and assessment, patient was taken up for exploratory laparotomy. Intraoperatively, a firm whitish calcified cyst of size 5×5 cm was present 30 cm from DJ flexure in jejunal mesentery near the mesenteric border of jejunum . Multiple diverticulum was present in jejunum starting 5cm from DJ flexure to 50 cm of jejunum. The cyst with 4 cm of jejunum was resected and anastomosis was done. . Jejunal diverticula were normal with no e/o inflammation or perforation and it was left as such. Postoperatively patient was started feeds on POD - 2 and post operative period was uneventful. Histopathology of the cyst wall showed predominantly areas of calcification with scattered histiocytes, hemosiderin laden macrophages and areas of hemorrhage implying chronic inflammatory pathology with no evidence of malignancy.

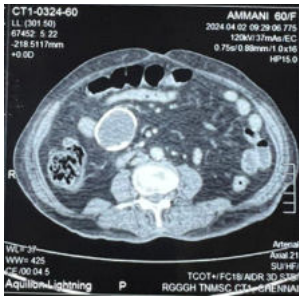

Figure 1 - CT image showing calcified mesenteric cyst

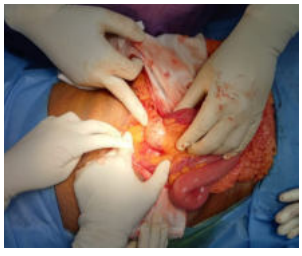

Figure 2: Calcified Cyst Embedded In Jejunal Mesentery

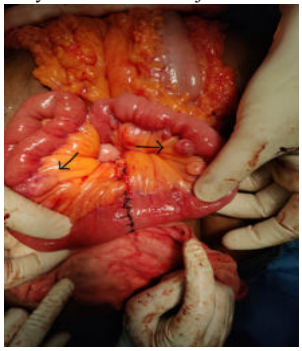

Figure 3: Post Resection And Anastomosis Of Jejunum With Multiple Jejunal Diverticulum

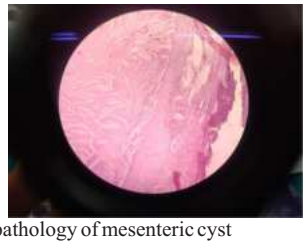

Figure 4: Histopathology of mesenteric cyst

DISCUSSION:

The incidence of small bowel diverticulosis ranges from 0.3% to 1.3% in the general population and is 2.3% in autopsies whereas the colonic diverticulosis prevalence rate ranges from 5% to 45% and is thus an important diagnosis for hospitalizations.In a retrospective study of 208 patients performed at three institutions over 23 years, 79% had duodenal diverticulosis, 18% had diverticulosis of the jejunum and ileum, and 3% had diverticulosis of the entire small bowel.[1,2] Jejunal diverticulosis was first described by Somerling in 1794 and by Sir Astley Cooper in 1807. In 1906, Gordinier and Shil performed the first operation for diverticulum.[3]They rarely occur in patients below the age of 40.Small bowel diverticula are frequently encountered in the elderly and have a slight male predominance.[4,5]

Diverticulosis is a sac-like out-pocketing of the bowel wall that can affect the small bowel through the large bowel.Jejunal diverticula share similarities with colonic diverticula in that the mucosal herniations occur through gaps in the muscle layers along pathways of the visceral vessels. These false diverticula are acquired out pouching of mucosa commonly found on the mesenteric border of the jejunum.The sizes of these diverticula vary between a few millimeters to greater than ten centimeters.The cause of this condition is not known. It is believed to develop as a result of abnormalities in peristalsis, intestinal dyskinesia, and high-segmental intra luminal pressures. These pulsion-type false diverticula occur along the mesenteric border of the intestine, where blood vessels pierce the muscularis layer of the bowel wall, causing weak areas to develop.Studies have reported that visceral neuropathy, which is observed in connective tissue disorders such as progressive systemic sclerosis and systemic lupus erythematosus, may cause increased intraluminal pressure, contributing to diverticulosis in these patients.[6] A review of literature also showed that small bowel diverticulosis may be associated with hereditary neuromuscular disorders such as Cronkite-Canada syndrome, lipid storage disorders, Fabry's disease, and sphingolipidosis [7]

Their presentation is variable from asymptomatic to chronic abdominal symptoms and the complications. JD often presents with no symptoms, and the diagnosis is coincidental in 70% of patients. Thirty percent of patients present with nonspecific symptoms such as abdominal pain, malabsorption syndrome-related signs and symptoms that arise from complications such as diverticulitis, perforations with local or generalized peritonitis, obstruction, adhesions, abscess formation, gastrointestinal hemorrhage, and rarely, volvulus. Ultrasound is usually used as the first-line investigation tool for abdominal pain due to its low cost, lack of radiation, and inability to clinically diagnose or suspect diverticulitis. CT is eventually requested when there is a negative initial investigation, and the peritoneal signs persist. It is the most useful tool for clinching the diagnosis and should ideally be performed with oral and rectal contrast (to differentiate the origin of diverticula from the large or small bowel when they are in proximity.Diverticula appear on CT as distinct round or ovoid, fluid, contrast, or air-containing structures outside the expected lumen of the small bowel, with a smooth wall and no recognizable small bowel folds. They are often seen to communicate directly with an adjacent loop of small bowel.[8]In some patients, x-ray and CT of the abdomen may not be able to detect the diverticula that are located on the mesenteric side; in these cases, enteroclysis or endoscopy is required. Enteroscopy is another diagnostic option. However, in recent years, endoscopy has replaced radiological methods and has been widely used for diagnosis [9]

Uncomplicated small bowel diverticulosis should be left untreated. Conservative management with intravenous antibiotics is adequate for diverticulitis, unless perforation or obstruction develops. Hemorrhage from jejunal diverticula predominantly presents as lower gastrointestinal bleeding although cases of hematemesis have been reported.. This bleeding may be acute or chronic with iron deficiency anaemia noted.If the patient is considered hemodynamically stable, then endoscopic techniques, such as oesophagogastroduodenoscopy or colonoscopy, may be used.The preferred approach to acute hemorrhage is intestinal resection of the bleeding jejunal segment with primary anastomoses.[10]

If there is localized peritonitis and the patient remains stable, a trial of nonsurgical management with intravenous antibiotics is opted for. If it progresses to localized intraperitoneal collections, other supportive measures such as percutaneous CT-guided aspiration may be suitable, which avoids the need for surgery. However, the current treatment of choice for perforated jejunal diverticula causing generalized peritonitis is prompt laparotomy with segmental intestinal resection and primary anastomosis.Acute intestinal obstruction is another complication of jejunal diverticula. Obstruction may be related to extrinsic compression from a nearby loop of jejunum containing a large diverticulum or from intussusception or volvulus or may be non-mechanical such as dyskinesia. If patient doesn't present with acute obstruction, a trial of conservative management can opted. If obstruction is not relieved, operative intervention should be carried out according to the pathology.

Mesenteric cysts are one of the rare causes of intra-abdominal masses. They account for 1 in 100,000 cases in adults and 1 in 20,000 cases in children. Nearly 33% of cases occur in children[11].Simple mesenteric cysts are rare, and calcified ones are rarer conditions, and not more than 1000 cases have been reported so far in the literature.Regarding sex predilection of mesenteric cysts, previous studies suggested that men were more affected than women, but more recent studies show otherwise. The female-to-male ratio is about 2□:□1 .[12] These cysts can form at any place in the gastrointestinal tract's mesentery, from the rectum to the duodenum. They might extend into the retroperitoneum from the mesentery's base. Sixty percent of mesenteric cysts in a group of 162 patients were found in the small intestine, whereas twenty percent were found in the large intestine mesentery, and fifteen percent in the retroperitoneum.[13] Italian anatomist Benevenni first described this entity performing an autopsy in an 8-year-old boy in 1507,while Rokitansky published the first accurate description of a chylous mesenteric cyst in 1842 and Tillaux performed the first successful surgery for a cystic mass in the mesentery in 1880.[14]

A new classification based essentially on histopathological features should include the 6 following groups: (1) cysts of lymphatic origin (simple lymphatic cyst and lymphangioma); (2) cysts of mesothelial origin (simple mesothelial cyst, benign cystic mesothelioma, and malignant cystic mesothelioma); (3) cysts of enteric origin (enteric cyst and enteric duplication cyst); (4) cysts of urogenital origin; (5) mature cystic teratoma (dermoid cysts), and (6) pseudocysts (infectious and traumatic cysts).Mesenteric cysts are also classified according to their aetiology and histological characteristics as (1) fetal and developmental cysts, (2) traumatic or acquired cysts, (3) neoplastic cysts and (4) infectious or degenerative cysts.[12,15]

The clinical presentation of patients with mesenteric cysts is so variable and nonspecific. It ranges from being asymptomatic to features of acute abdomen very rarely . The presentations can be categorized in to three groups: (1) those with nonspecific abdominal features, (2) those diagnosed incidentally following abdominal imaging, and (3) those with features of acute abdomen . Development of symptoms depends on the size of the cyst, the location, and rarely whether there are complications like intestinal obstruction, volvulus, hemorrhage, or peritonitis. [16]

Diagnosis of mesenteric cysts can be challenging, as cysts mimic other pathologies, such as pancreatic pseudocysts or cystic tumors, pelvic diseases, and aortic aneurysms. Although it is the first imaging that is done, ultrasound is not the first choice of imaging modality for intestinal and mesenteric masses as it lacks precision in detailing the relationship of the mass with the surrounding tissues and viscera . Abdominal CT is recommended for a detailed evaluation. CT is very useful for localization, preoperative planning, and assessing the relation of the cyst with adjacent organs . MRI has had a better yield of cyst evaluation . In general, mesenteric cysts have benign features on imaging.

The choice of surgery depends on the location of the cyst, its size, and whether adjacent organs are involved or not. complete excision with or

without bowel resection, depending on the involvement of the mesenteric vessels or the bowel itself, is the treatment of choice . Simple aspiration or marsupialization may be considered when short bowel syndrome is anticipated, but these procedures are generally unadvised due to the risk of infection and frequent recurrence . Percutaneous ablation with ethanol is another option mentioned in the literature. It is recommended for cysts considered benign, have a smooth and thin wall, and are unilocular. Few studies recommend that active follow-up is enough for asymptomatic cases, but many authors recommend radical removal of the mass even in asymptomatic patients. Despite being classified as benign entities, they carry a 3% chance of malignant transformation, emphasizing the importance of timely diagnosis and complete surgical excision.

CONCLUSION:

The purpose of the case report is to alert the physicians about the vague non-specific complaints of diverticulosis and mesenteric cyst. They should be considered as differential diagnosis in patient presenting with chronic abdominal discomfort. Multiple diverticulosis can be managed conservatively if does not present as perforation or obstruction, as resecting all diverticula may cause short bowel syndrome. Owing to 3% chance of malignant transformation, all mesenteric cyst should be resected and post operative histopathology should reviewed to rule out malignancy.

Conflicts Of Interest: Nil

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