Case Report:

Mesenteric jejunal diverticulitis causing peritonitis

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Abstract: Acquired jejunal diverticular disease is uncommon and most surgeons have limited experience with this condition. We are presenting a rare case of peritonitis due to jejunal mesenteric diverticulitis. Usual treatment of complicated mesenteric jejunal diverticular disease is resection of small bowel, in the given clinical situation it was managed by conservation of small bowel.

Key word: jejunal diverticulitis, Jejunal mesenteric diverticula

Introduction:
Acquired jejunal diverticuli are rare and mostly asymptomatic. Some will cause symptoms like abdominal pain, bloating sensation, malena and haematochesia causing anemia. Fever with localized tenderness due to diverticular inflammation, vomiting and constipation due to intestinal obstruction from volvulus or enteroliths, flatulence due to bacterial overgrowth, malabsorption due to diarrhea, very rarely do they cause diverticular perforation. Perforation occurs only in 2.3 to 6.4% of all diverticuli bearing patients.\(^1\) Jejunal mesenteric diverticulitis causing abscess and peritonitis is very rare complication. Intra luminal and meckels diverticuli are congenital.

Case report:
Sixty year female patient came with vomiting for one day and generalized abdominal pain with distension of abdomen for two days. No history of chronic abdominal pain. On examination patient had tachycardia, otherwise haemodynamicaly stable. Abdomen had diffuse tenderness and guarding with absent peristalsis on auscultation. X-ray erect abdomen revealed dilated small intestinal loops with air and fluid levels, suggesting localized paralytic ileus. (Figure 1) Peritoneal tapping had pus aspirated. Laboratory report revealed raised total and polymorph count. As clinically peritonitis was suspected we decided to do exploratory laprotomy.

On laprotomy pus filled fluid aspirated from pelvic cavity, there was interloop abscess in proximal jejunal loops with multiple diverticuli on mesenteric side. (Figure 2)

As diverticuli were extending from duodenojejunal junction to three feet of jejunum, no intestinal resection of the bowel was done. Peritoneal wash was given and interloop abscess drained, laprotomy closed with drains. Patient had uneventful recovery and discharged ten days postoperative.
Patient was advised high fiber diet and relatives informed about the likely complications of diverticular disease of jejunum in future.

**Discussion:**

Jejunal diverticula are first described by Somerling in 1974 and by Sir Astley Cooper in 1807[1] Jejunal diverticula are the least common type of small bowel diverticula with an incidence less than 0.5%. They are multiple out pouching of mucosa and sub mucosa[2]. They are pulsion pseudodiverticuli due to raised intraluminal pressure and intestinal dysmotility. They arise were the blood vessel enter the bowel. Usually this disorder is clinically silent until it presents with the complication.

When symptomatic patients may describe a vague chronic abdominal pain of varying severity, localized either to the epigastric or peri umbilical region. Acute complications warranting surgical intervention occur in 8 to 30% of patients; common acute complications include diverticulitis, bleeding, intestinal obstruction and perforation.

Specific features based on anatomical location and type: Duodenal Diverticula may be single or multiple. 75% occurs juxtapapillary (around ampulla of vater) associated with increased incidence of biliary stones and pancreatitis or with biliary and pancreatic anomalies. Incidence increases with age. 50% have associated colonic pseudodiverticuli.[7]

Jejunoileal diverticuli are most common in proximal jejunum, they are multiple and associated with small intestinal motility disorders such as progressive systemic sclerosis, visceral myopathy and visceral neuropathy. Intraluminal Diverticula are congenital resulting from defective recanalization of duodenal lumen during fetal development. They start as fenestrated diaphragm that over time transform into diverticuli as a result of peristalsis. It occurs singly and has duodenal mucosa on both sides. Intraluminal diverticula are usually located in the second part of the duodenum and can manifest at any age.

Meckels diverticuli are congenital true diverticuli having all layers of the intestinal wall. Risk factors for pseudodiverticuli are low fiber diet, high fat diet, advancing age, systemic sclerosis, visceral myopathy and visceral neuropathy. Jejunal diverticula are a challenging disorder for diagnosis as there is no reliable diagnostic test available. Abdominal radiography may demonstrate evidence of perforation, such as free air under the diaphragm or free peritoneal air, evidence of intestinal obstruction or evidence of illeus, including multiple airs – fluid levels and bowel dilatation.

A double contrast barium meal and enteroclysis is useful in diagnosis but is contraindicated in acute diverticular perforation. Abdominal CT with contrast may provide more information in complicated cases as well as uncomplicated cases. Phlegmon can be identified especially in retroperitoneal spaces providing initial clue to
the possibility of small intestinal diverticular disease. Double balloon enteroscopy may reveal incident diverticula or may be useful in diagnosis of bleeding diverticula; it has interventional capability (arresting bleeding). Similarly capsule endoscopy may be useful in diagnosis of diverticular disease, but cannot be used in emergency setting (Intestinal obstruction and perforation).

E.R.C.P. is used to diagnose periampullary diverticula. Diagnostic laparoscopy may be used for accurate conclusive diagnosis to be made and to avoid unnecessary laprotomy, but in presence of perforation or abscess and mechanical obstruction exploratory laparotomy is required with resection of the diseased bowel and primary anastomosis as appropriate.

General recommendation:
For asymptomatic diverticuli conservative approach like high fiber diet is advised, for symptomatic diverticulum several operative procedures are available depending upon type of diverticulum, site and nature of complications.

Simple diverticulectomy is used for diverticular bleeding of duodenum. This procedure requires modification in cases involving a diverticulum that is embedded deep in the head of pancreas or is associated with perforated ampulla of vater diverticula or is intraluminal in location with obstruction of common bile duct, may benefit by doing choledochoduodenostomy.\(^7\) Intestinal resection with end to end anastomosis is preferred approach to multiple Jejunoileal diverticular disease with complication. Enterotomy to remove enteroliths of diverticular origin causing distal obstruction.

Perforated duodenal diverticum requires special approach like billroth two like procedure. \(^7\) Dysmotility alone without obstruction is not an indication for bowel resection, because resection would not prevent propagation of motility disorder. \(^8\)

Diverticulitis and G.I. bleeding patient need initial conservative treatment (IV fluid, antibiotics, blood transfusion). Elective surgical treatment for patients who had bleeding from diverticula.

Persistent hemorrhage may require mesenteric angiography with infusion of vasoconstrictors. Emergency laprotomy may be indicated for continued bleeding. Intestinal perforation requires emergency surgery.

Intestinal obstruction in diverticular disease can occur due to intussusception, volvulus or pseudobstruction requires resection of bowel. Malabsorption resulting from bacterial overgrowth in blind loop and flatulence with bloating due to bacterial overgrowth responds to antibiotics. Fistula is a rare complication.

**CONCLUSION:**
Though usual treatment of complicated mesenteric diverticular disease is resection of bowel. In given clinical situation mesenteric jejunal diverticuli can be managed by no resection of the bowel.
REFERENCES:


