Case Report

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Surgery Section

Jejunal Diverticula with Perforation- A Case Report

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ABSTRACT

Jejunal diverticula with perforation is very rare. Incidence of Jejunal diverticula on enteroclysis is 2.0–2.3% and on autopsy it is 0.06–4.6%. Incidence of perforation in Jejunal diverticula is 2.3-6.4%. Pathologically it is pulsion type of pseudo diverticula occuring along the mesenteric border of the intestine, where the blood vessels pierce the muscularis layer causing weak areas to develop. These out-pouchings contain mucosa and submucosa only hence perforates easily.

74 year old male patient presents with pain in abdomen since 1 day. Patient was toxic and per abdomen examination shows diffuse tenderness+, guarding+, rigidity+, abdomen distention +, Bowel sounds absent. Erect X-ray abdomen showed air under the diaphragm. Emergency Laparotomy performed and multiple Jejunal diverticula with a perforation in mesenteric border of Jejunum was noted. Segmental Resection and end to end anastamosis was done. Postoperative period was uneventful.

Jejunal diverticula with perforation is very rare and mostly an incidental finding during Laparotomy. Segmental Resection and anastamosis is the treatment of choice.

Keywords: Emergency laparotomy, Jejunal diverticula, Pseudodiverticula, Perforation, Resection and Anastomosis

CASE PRESENTATAION

74 year old male patient presents with pain in abdomen since 1 day. Patient looks toxic in appearance pulse 88/min, BP 100/60, dehydration+, temperature 99.8 F. Per abdomen examination showed diffuse tenderness+, guarding+, rigidity+, abdomen distention +, Bowel sounds absent. Erect X ray abdomen showed air under the diaphragm [Table/Fig-1].

Emergency Laparotomy was performed and multiple Jejunal diverticula with a perforation in mesenteric border of jejunum noted [Table/Fig-2]. Segmental Resection and end to end anastamosis was done. Postoperative period was uneventful.

DISCUSSION

Jejunal diverticula incidence on enteroclysis is 2.0–2.3% and on autopsy it is 0.06–4.6% [1]. Incidence of perforation in Jejunal diverticula is 2.3-6.4% [2]. Pathologically it is a pulsion type of pseudo diverticula occur along the mesenteric border of the intestine, where blood vessels pierce the muscularis layer causing weak areas to develop. These out-pouchings contain mucosa and submucosa only, hence perforates easily. Jejunal diverticulum was first described by Somerling in 1794 and later by Astley Cooper in 1809. Gordinier and Shil performed the first operation for diverticula in 1906 [3, 4].

It commonly affects elderly males [5].

Currently etiopathological hypothesis focuses on abnormalities in the smooth muscle or myenteric plexus. Microscopic examination of Jejunal diverticula specimens showed three changes (1) Fibrosis and decreased numbers of normal muscle cells, consistent with progressive systemic sclerosis. (2) Fibrosis and degenerated smooth muscle cells, suggestive of a visceral myopathy. (3) Neuronal and axonal degeneration indicative of visceral neuropathy. Any of these abnormalities could lead to distorted smooth muscle contractions of the affected small bowel generating increased intraluminal pressure. This results in herniation of mucosa and submucosa through the weakest mesenteric site of the bowel wall where vasa recta pierce the muscularis layer [6].

The Jejunoileal diverticulosis is usually multiple, more frequently located in the jejunum and in the terminal ileum and probably due to the larger size of the vasa recta at these areas [7]. The most common part of the small bowel to be affected by diverticula is the Jejunum (85%), ileum (15%). Isolated jejunal diverticulosis coexists with diverticula of the esophagus (2%), of the duodenum (26%) and of the colon (35%) [7].

Jejunal diverticula is usually asymptomatic. It can present with vague and chronic nonspecific symptoms, mainly postprandial, epigastric cramping pain, bloating or abdominal fullness. Edwards described a symptom triad observed in these patients as ‘flatulent dyspepsia’ (epigastric pain, abdominal



[Table/Fig-1]: Pneumoperitoneum **[Table/Fig-2a]:** Multiple Jejunal Diverticulosis **[Table/Fig-2b]:** Perforated Jejunal Diverticulosis

discomfort, flatulence one or two hours after meals) [8]. It can also be associated with iron deficiency and megaloblastic anemia due to malabsorpion, steatorrhea, and vitamin c deficit [9]. Malabsorpion could be explained by the non synchronous peristaltic movement of the bowel, dilation of the diverticula, stasis of intestinal content and bacterial overgrowth [10-13].

Complications such as obstruction, hemorrhage, diverticulitis and perforation are seen in 10%-30% patients [11-13].

Peritonitis caused by perforated jejunal diverticula can be localized and self-limiting because the diverticula are at the mesenteric border of the bowel and readily allow the small bowel mesentery to wall them off [14].

Jejunal diverticulosis with perforation on plain abdominal X-ray series demonstrates pneumoperitoneum. Computed tomography may show focal areas of out-pouching of the mesenteric side of the bowel with pneumoperitoneum [15].

Novac et al [16] presented a case series of perforated diverticulitis treated conservatively with temporary interruption of the enteral nutrition, gastrointestinal relief with a nasogastric tube and to the administration of empirical, wide-spectrum antibiotics [17]. Exploratory Laparotomy and resection of affected intestinal segment with primary anastamosis is the treatment of choice. The extent of the Segmental resection depends on the length of the bowel affected by diverticula. If diverticula involve a long intestinal segment, as commonly happens, the resection should be limited to the perforated or inflamed intestinal segment in order to avoid a short bowel syndrome. Other surgical approaches such as the invagination of the diverticula, primary closure of the perforation and omental patch and diverticulectomy should be avoided since they have high mortality rates [18].

CONCLUSION

Jejunal diverticulosis with perforation is very rare and most of the time an incidental finding during Laparotomy. Segmental Resection and anastamosis is the treatment of choice.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interests regarding the publication of this paper.

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