Case report

A rare cause of internal herniation - Intermesocolic fossa of Brosike

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Abstract

Internal Hernias are defined as “The protrusion of viscera through a normal or abnormal opening within the boundaries of the peritoneal cavity” which account for 0.5 – 5.8% of small bowel obstructions while Autopsy incidence is 0.2% to 2%. Hernial defect may be congenital or acquired, the latter being the more common variety. Types: Paraduodenal (53%), Pericaecal (13%), Foramen of Winslow (8%), Intersigmoid (6%), Transmesenteric (8%), Retroanastomotic (1-4%), Supravesical and pelvic (6%). Paraduodenal Hernias are the most common internal abdominal hernias accounting for half of reported cases. They are basically congenital in origin representing entrapment of small intestine beneath the mesentery of colon probably occurring due to abnormal embryologic rotation of midgut and variation in peritoneal fixation and vascular folds. Among the paraduodenal hernias left sided hernias predominate, right being less common. We present one such rare case of a congenital, right paraduodenal hernia into the Intermesocolic fossa of Brosike.

Key words: Hernia, mesocolic fossa, obstruction

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Case report

A 50-year-old male presented to the Emergency Department with history suggestive of diffuse, colicky abdominal pain associated with bilious vomitings, distension of abdomen and obstipation of 4 days duration. There was no past history of abdominal surgery or tuberculosis.

Clinical examination revealed generalized distension of abdomen more predominantly in the right lower abdomen with diffuse tenderness and without guarding or rigidity. Hernial orifices were free. The per rectal examination showed rectum to be empty with no evidence any palpable growth. With a provisional diagnosis of Acute Intestinal obstruction, X Ray abdomen erect was done which showed multiple air fluid levels predominantly on the right lower abdomen suggestive of small bowel obstruction. After the preliminary investigations and necessary resuscitation exploratory laparotomy was done under general anesthesia.
Intraoperative Findings
On Laparotomy whole of the small intestine appeared to be enclosed within a thin membranous sac with the collapsed transverse colon lining the sac as shown in figure 1. On delivering out the sac, there was an opening on the left through which the bowel loops herniated (as in Fig 2) bounded by a peritoneal fold from transverse colon getting attached to the root of jejunal mesentery. The herniated bowel loops were reduced and the defect obliterated.

Fig 1. Hernial sac with herniated bowel loops

Fig 2. Herniated small bowel loops through the paraduodenal fossa. (Fossa depicted by yellow arrow)

Discussion
Nine types of paraduodenal fossae were described by Moynihan and Dobson.

Intermesocolic fossa of Brosike. This fossa is rare. Moynihan has seen it only once. Brosike, who first described it, has met with it six times (autopsy studies). Herniation into this fossa causing right paraduodenal hernia is even more rare. The fossa runs horizontally in the root of the transverse mesocolon. This fossa is bounded: superiorly by transverse mesocolon and pancreas; inferiorly by ascending part of duodenum and duodenojejunal flexure; anteriorly by special fold of peritoneum (Plica infra-mesocolicatransversa) and Middle-colic artery lies near the opening on the right.

Fig 3. Forceps pointing to reveal the ‘Plica infra mesocolicatransversa’ and the yellow arrow showing Transverse colon

Fig 4. Mesojejunal attachment of the special fold can be seen clearly (blue pointer).

Origin of the fossa is attributed to the formation of fusion fold between transverse mesocolon and DJ flexure and mesojejenum.

Internal herniation of the small bowel is a relatively rare cause of intestinal obstruction and accounts for less than 2% of all causes among all congenital hernias. Paraduodenal hernias are the most common type with an overall incidence of approximately 50% of all internal hernias. Left Para duodenal Hernia (hernia of Lanzert) is about three times more common than the right counterpart (Waldayer’s hernia).

Surgical Importance
Consider internal herniation in any case of acute obstruction with localized distension of the abdomen. The orifice of the sac should be dilated, not incised. If division be needful, the probable proxim-
ity of middle colic artery must be remembered. Transverse colon can be collapsed to the hernial sac that it may be injured inadvertently. Hernial sac may mimic like a cocoon abdomen leading to inappropriate treatment.

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References