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RESEARCH ARTICLE

A RARE CASE REPORT OF INTESTINAL MALROTATION WITH MIDGUT VOLVULUS PRESENTING IN EARLY ADULTHOOD

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ABSTRACT

Intestinal malrotation is regarded as a pediatric disease with presentation in adulthood being rare leading to delay in diagnosis. A high index of clinical suspicion is required to consider this in patients presenting with recurrent colicky abdominal pain and vomiting. We present a case of a 22 year old lady with acute abdomen since 3 days with a history of recurrent symptoms for past 2 months. Contrast enhanced Computed Tomography revealed a typical whirlpool sign. Intraoperative finding revealed a midgut volvulus with small bowel loops situated in the right half of abdomen and cecum with ascending colon not fixed in the right lower quadrant. Surgery is the mainstay in the management with minimal long term complications.

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INTRODUCTION

The normal embryological development of midgut occurs through a 270 degree counter-clockwise rotation around Superior Mesenteric vessels in early fetal life. Failure or partial rotation of this physiological process leads to intestinal malrotation leading to intestinal obstruction (1). The incidence is rare with only one case in every 200 to 500 newborns, and one in 6000 newborns being symptomatic (2, 3). Presentation of such cases in early adulthood as intestinal obstruction poses a clinical dilemma in diagnosis. Outlined here is the unusual presentation of midgut malrotation as midgut volvulus in early adulthood describing the management protocol.

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CASE REPORT

A 22 year old lady presented with recurrent episodes of colicky pain in the mid abdomen with intermittent constipation and bilious vomiting since last 2 months with aggravation of symptoms in last 3 days. On examination the patient was dehydrated with a pulse rate of 98 beats per minute and blood pressure of 108/68 mm of Hg. The abdominal examination revealed distension in the upper abdomen with mild tenderness. No mass was palpable. Abdominal radiography showed gross gastric distension (Figure 1). Nasogastric decompression was done and 400ml of bilious fluid drained in 24 hours. The symptoms subsided the next day. Patient underwent intravenous and oral contrast computed tomography which revealed whirlpool sign in proximal jejuna loops (Figure 2) with small bowel loops in the right half of abdomen and non visualization of the cecum in the right lower abdomen.

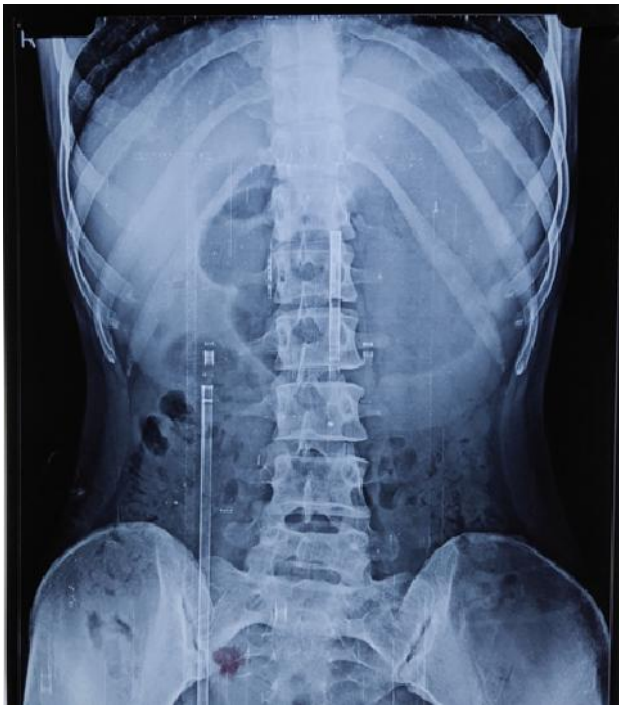

Figure 1. Abdominal Radiograph showing gastric distension

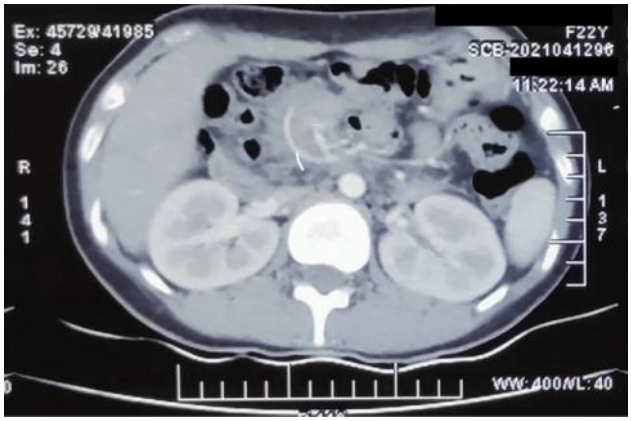

Figure 2. CECT abdomen showing Whirlpool sign in proximal jejunal loops

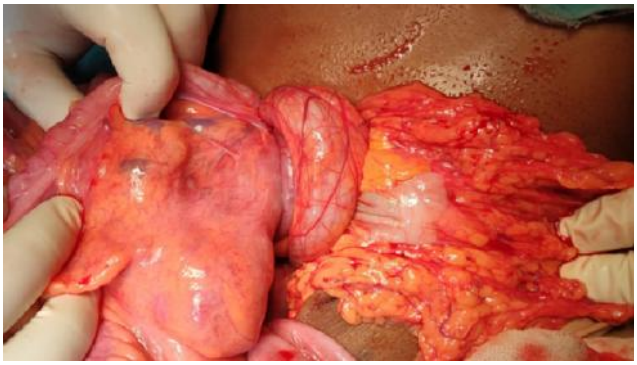

Figure 3. Twisting of Proximal jejunal loops (Midgut Volvulus)

With a diagnosis of midgut malrotation, the patient underwent exploratory laparotomy. Intraoperatively, proximal jejunal loops was found twisted along its axis (volvulus) as shown in Figure 3 with small bowel loops situated predominantly in the right half of the abdomen, the duodeno-jejunal flexure not crossing to the left side and cecum located in the right upper quadrant. The bowel was found viable and derotation of the gut was done with Ladd's procedure. Post operative period was uneventful. Patient is on regular follow up and is symptom free.

DISCUSSION

Malrotation of intestine as a clinical entity is well established. It occurs due to any variation from the normal 270 degree counter-clockwise rotation of the midgut during early fetal life. Most of these patients present very early in life within the neonatal period but rarely may they present as intestinal obstruction in adults with incidence of 0.2-0.5 % (4). Though the symptoms during presentation are vague, a high index of clinical suspicion is required to diagnose this condition. Majority of them present with intermittent colicky abdominal pain with bilious vomiting due to chronic partial obstruction (5). Delayed detection leads to acute presentation with disastrous complications such as midgut volvulus, intestinal ischemia and gangrene (6).

Patients in their early adulthood with symptoms of recurrent pain abdomen, bilious vomiting must be evaluated with a clinical suspicion of intestinal malrotation. These patients require a contrast enhanced CT with oral and intravenous contrast to establish the diagnosis. Typical whirled appearance of the vasculature of the jejunal loops is observed (7). Other findings would include the small bowel loops present in the right half of the abdomen with non visualization of the cecum in the right lower abdomen. Surgery in the form of Ladd's procedure is the only treatment of such patients to prevent catastrophic complications (8). In the current case, we describe the presentation of intestinal malrotation as midgut volvulus in acute obstruction. Patients with intact vascularity of the bowel can undergo derotation with widening of the mesentery, a cecopexy and appendicectomy. Whereas, an ischemic bowel would warrant a resection and anastomosis. These patients usually recover with no long term complications.

CONCLUSION

Though rare, intestinal malrotation must be considered as a differential diagnosis of obstruction in patients presenting in early adulthood with recurrent colicky abdominal pain and vomiting. Contrast enhanced CT showing the characteristic signs clinch the diagnosis. As there are no reliable means to predict the occurrence of catastrophic complications of bowel gangrene, early surgical management is the mainstay.

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