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Strangulated Diaphragmatic Hernia- A Rare Cause of Acute Intestinal Obstruction in Adults

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Abstract: Diaphragmatic hernia in the absence of trauma is very rare in adults. The literature describes less than a dozen such cases of right-sided diaphragmatic hernia .We present a rare case of spontaneous right side diaphragmatic hernia in adult patient without any h/o trauma. The Patient presented with acute pain abdomen, distention, vomiting and obstipation. Radiological investigations confirmed acute intestinal obstruction and multiple air-fluids levels, also in the right hemithorax, suspicious of diaphragmatic hernia. Exploratory laparotomy was performed and a loop of ileum herniating through a diaphragmatic defect was seen on the right side. Resection and anastomosis of the strangulated herniating loop was done. Diaphragmatic hernial defect was repaired.
Keywords: Diaphragmatic Hernia, Intestinal obstruction, Strangulation, Congenital hernia.

INTRODUCTION

Right-sided diaphragmatic hernias in adults are usually caused by penetrating or blunt trauma and only a few reported cases have not involved any type of obvious injury [1]. Late presentation of congenital diaphragmatic hernia is reported to be 5 to 25 percent and its presentation as intestinal obstruction is reported rarely [2]. It presents in strangulated form, requiring rapid diagnosis and surgical intervention [3]. In this report, we describe the case of an adult patient who had a right sided diaphragmatic hernia without any previous history of trauma.

CASE REPORT

A 70-year-old-male patient presented with abdominal pain since 10 days, vomiting since 2 days and non passage of stool since 3days.

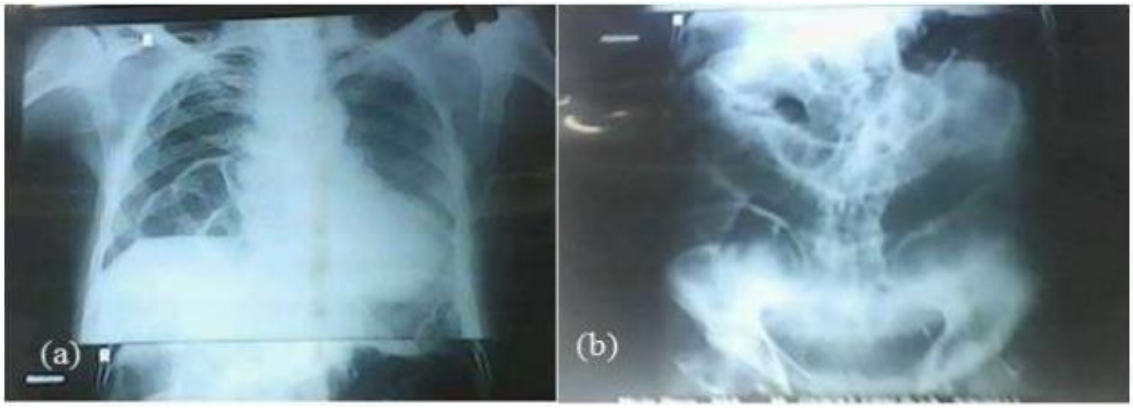

Fig-1: a) Chest X-ray showing evidence of air filled gut loops with fluid level within them in right mid and lower zones with slight mediastinal shift to the left; b) Abdominal X-ray showing gross dilatation of the visualizes gut loops

There was no past history of trauma to chest or abdomen. He had tachycardia. BP was normal. Abdomen was grossly distended, tender and bowel sounds were absent. Haematological investigations revealed raised leucocyte count (15600) with neutrophilia (90%) and mildly deranged Renal Function Tests. Plain X-ray chest in standing position revealed multiple air-fluid levels with non-delineation of the

right hemidiaphragm. Emergency exploratory laparotomy was done through the midline incision which revealed dilated bowel loops from duodeno-jejunal flexure upto the herniating ileal loop. Along with the ileum, the ileal mesentry and a part of omentum were seen herniating into the right hemithorax. Ileal loop was released from the adhesions within the thoracic cavity and brought back into the peritoneal cavity.

Pregangrenous changes were present in the herniated ileal loop, so resection of the affected ileal segment was done with end to end ileoileal anastomosis. The diaphragmatic rent was closed with polypropyelene suture. There was no tension over the rent on repair. Right side intercostal tube was put. Thoracotomy was not done as herniated ileal segment was easily mobilized on laparotomy.

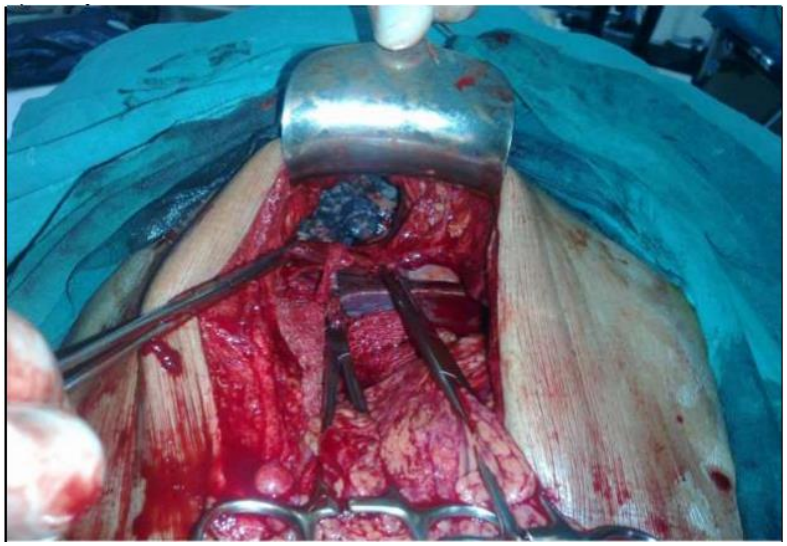

Fig-2: Hernial defect after reduction of strangulated ileal loop, lung parenchyma visualized through the diaphragmatic defect

DISCUSSION

Diaphragmatic hernia occurs as a result of defective closure of the pleuro-peritoneal canal. It is mainly diagnosed in newborns, although there are adult cases which may be diagnosed incidentally on radiological studies. It is more common on the left side as the right pleuroperitoneal canal closes earlier as compared to the left side [4]. Recent reports have suggested that right-sided hernias are more common than initially thought, as they are more often asymptomatic due to the buttressing effect of the liver [4]. Adult patients are usually asymptomatic but, some may present with vague, non-specific chest or abdominal complaints or as an emergency with strangulation with colonic necrosis/perforation, or as tension pneumothorax [4-5]. A detailed history-taking, clinical examination coupled with a high clinical suspicion, are paramount for diagnosing a diaphragmatic hernia presenting with signs of intestinal obstruction. Our case is a unique one as the diaphragmatic hernia presented with features of intestinal obstruction and the patient had no previous history of thoracoabdominal trauma.

CONCLUSION

Patients with obstructed/strangulated congenital diaphragmatic hernias in adults as a rare cause of intestinal obstruction. The cause of late presentation is plugging of the hernial defect by liver or omentum. Patients complaining of upper abdominal pain and dyspnea with past history of thoracoabdominal trauma should be evaluated for a missed diaphragmatic injury. A high index of suspicion, thorough physical examination of the chest and chest x-ray are helpful for diagnosing diaphragmatic hernias presenting as intestinal obstruction. Clinical awareness of this uncommon condition should be raised especially when evaluating a patient with respiratory symptoms and atypical abdominal pain, as a delay in appropriate diagnosis and management could result in significant morbidity and mortality.

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