

UNUSUAL PRESENTATION OF CONGENITAL DIAPHRAGMATIC HERNIA IN A 15 YEARS OLD BOY

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ABSTRACT

This report discusses a case of 15 years old young boy who surprisingly presented late with huge congenital diaphragmatic hernia having stomach, part of colon, small bowel, spleen, tail of pancreas and left kidney.

Keywords: Congenital diaphragmatic hernia, Gastrothorax, Chest Radiograph, CT-Scan, Laparoscopy, Surgery

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INTRODUCTION

Presentation of Congenital Diaphragmatic Hernia (CDH) occurs usually at the neonatal age with the respiratory distress or feeding regurgitation. Sometimes it may present with the non-specific symptoms involving respiratory as well as gastrointestinal system. Cause of disease is still unknown. But there may be late presentation of CDH, beyond the neonatal period, with the herniation of abdominal contents. Late presenting cases may present with obstruction and incarceration of herniated bowel loops, or picked up on routine/medical checkup for another health problem (1). Life threatening emergency can occur in patients of CDH due to herniation of abdominal content leading to mediastinal shift if late present but rare (2). Prevalence of this congenital anomaly is 1-5 babies per 1000 live births worldwide but presentation is early in their life (3). Late presentation of CDH is rare and most of the time misdiagnosed and

mistreated clinically. Early diagnosis gave promising excellent surgical outcomes in these patients (1). Here we present a case of congenital diaphragmatic hernia in a boy at the age of 15 years who has presented with bowel obstruction and herniation of abdominal contents in left hemi-thorax.

CASE PRESENTATION

This case is about a 15 years old boy who presented in emergency department of Lahore general hospital in surgical unit II, with acute upper abdominal pain, radiating to left upper chest. Pain exacerbated on the background of three months of similar pain which was mild in intensity, episodic and colicky in nature, aggravated by meals and relieved by vomiting. Vomiting was greenish with food particles and aggravated by meals. Vital patient was unstable with BP of 90/60 mmHg, pulse 120/min, afebrile, dehydrated and having respiratory rate 20/min. Abdomen was soft and non-tender with fullness in epigastrium. Chest auscultation revealed reduced air entry in upper left lobe of lungs and no breath sound are audible at the base of left lung. On careful auscultation there were faintly audible bowel sounds in left lower chest. Emergency management was done with IV rehydration and nasogastric tube placement and foley's catheterization.

NG tube instantly drained 2500ml succuseric fluid deflating abdominal fullness. X-ray abdomen revealed nasogastric tube coiling back in chest, bowel loops in chest and absence of left hemi-diaphragm (figure 1). CT abdomen confirmed presence of abdomen viscera (stomach, spleen, transverse colon, small bowel loops, tail of pancreas and left kidney) in chest (Figure 2 & 3). Barium meal with follow through showed gastrothorax with dye outlining small bowel (Figure 4).

Laparoscopic intervention was done which showed left hemi-diaphragmatic defect between chest and abdominal cavity. Left dome of diaphragm was almost missing except a thin rim of remnant tissue around abdominal contents (figure 5). Herniated viscera were confirmed to be stomach, splenic flexure of colon, spleen, tail of pancreas, left kidney and small bowel loops, which were displaced into left hemi-thorax. Left lung was found to be collapsed. Viscera were replaced into abdominal cavity and defect was reconstructed with application of 15x20 cm size composite mesh and positioned with absorbable tackers (figure 6). Left sided chest intubation was done. Postoperatively patient remained vitally stable with partial lung re-expansion (figure 7) and return of normal bowel function. Chest physiotherapy was advised. Patient was discharged uneventfully and regularly followed up.



Figure 5



Figure 6



Figure 7



Figure 1



Figure 2



Figure 3



Figure 4

DISCUSSION

Approximately 10% to 15% cases of all CDH are reported with its delayed presentation^{4,5}. In these cases ratio of the male-to-female patients was roughly 2:1. Nearly 80% cases of late-presenting CDH, come up with acute symptoms.

Delayed onset diaphragmatic hernia presents with unilateral postero-lateral defects (Bochdalek hernia) and left sided hernias, in a percentage of 96% and 79.4%, respectively⁶. And many of the late presenting cases do not have any other anomalies. These cases also has rarity of associated lung hypoplasia⁴.

Delayed onset diaphragmatic hernia can present with acute or chronic symptoms, in an intrigued way. Chronic symptoms are usually seen with right side defects. Patients may have GIT, respiratory or cardiovascular problems, but the symptoms are ambiguous for the late-presenting diaphragmatic hernia^{6,7}.

In our patient, initial presentation was small bowel obstruction with vomiting and pain in upper abdomen, but diagnosis was clinched when the chest radiograph done and unexpectedly NGT coiled was found to be left chest (in displaced stomach). Distended gastro-thorax was effectively decompressed with N.G tube. CT scan chest and abdomen, GIT contrast studies and other diagnostic modalities were used to confirm the pathology. For avoidable delay in diagnosis, sometimes get the benefit of doubt and get investigations done⁸. Use of laparoscopic

approach enhanced the recovery of patient and provided application of recent advances in the field.

CONCLUSION

Congenital diaphragmatic hernia is a complex disease and many of its aspects are still needs to be discovered. Its incidence is relatively high and its treatment expenditure is costly; the sequel is frequent if not handled appropriately. Hence, more awareness about this condition should be promoted amongst pediatricians, pediatric surgeons and general surgeons

CONSENT

For the publication of this manuscript, written informed consent was taken from the patient.

COMPETING INTERESTS

There is declaration of no competing interests by authors.

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AUTHOR'S CONTRIBUTIONS

AG: Concept Design

SUK: Literature Review

KS: Manuscript writing

SM, MK: Data collection

AAB: Proof Reading, Review