

## CASE REPORT

# Left paraduodenal hernia: A case report

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### ABSTRACT

**Background:** The occurrence of paraduodenal hernia is rare and is attributed to a congenital abnormality resulting from a rotational defect in the midgut. A female patient, aged 13, was admitted to the emergency room of our hospital after a prolonged period of intense and persistent stomach discomfort. There was evidence of bunch of clustered small bowel loops in left anterior Para renal space, showing insertion of few vowel loops in mesentery defect, possibly represent internal hernia, most likely left paraduodenal hernia. The occurrence of paraduodenal hernia is infrequent and it serves as a less common aetiology for acute abdomen. As a result, the diagnosis of this condition is often inaccurate or delayed due to the diverse range of clinical presentations it exhibits.

**Keywords:** Paraduodenal hernia, Bowel loops, Left

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### INTRODUCTION

Paraduodenal hernias are classified as infrequent hernias that arise due to incomplete rotation of the midgut. These substances have the potential to induce acute stomach discomfort, chronic digestive issues, as well as nonspecific or moderate symptoms such as nausea and vomiting. Hence, due to the considerable variability in symptoms and indications, the preoperative diagnosis of paraduodenal hernia may not always be feasible. The inadvertent detection of this condition during laparotomy or its occurrence as a rare cause of small intestinal blockage leading to strangling and perforation may be seen. The prompt surgical surgery in a timely manner serves to reduce both the mortality and morbidity rates linked to the acute manifestation of this particular hernia.

### PATIENT AND OBSERVATION

A female patient, aged 13, was admitted to the emergency room of our hospital after a prolonged period of intense and persistent stomach discomfort. There were no mitigating nor exacerbating variables. The individual had a severe and acute discomfort, which was thereafter accompanied by non-bilious emesis, indicative of the regurgitation of stomach contents. The patient denied any prior occurrences of weight loss, persistent stomach discomfort, or any other indications of gastrointestinal distress. The

individual had previously shown no symptoms and had not had any abdominal surgical procedures. During the physical examination, the patient exhibited moderate dehydration and mild tachycardia, with a pulse rate of 96 beats per minute, while maintaining normal blood pressure. Plain and post contrast 256 slice dual energy spectral CT Scan of abdomen has been performed in Axial Plain. In addition coronal reformats were further assessed. There was evidence of bunch of clustered small bowel loops in left anterior Para renal space, showing insertion of few vowel loops in mesentery defect, possibly represent internal hernia, most likely left paraduodenal hernia. Liver was normal in size, hepatic parenchyma shows normal attenuation. Intrahepatic biliary radicals were not dilated. Hepatic vasculature was unremarkable. Gall bladder was well distended and has smooth walls. Lumen was clear no radio: opaque calculus or soft tissue mass seen in the lumen. Head, body and tail of pancreas was define as normal in size. Pancreatic parenchyma shows normal enhancement. Peri pancreatic fat planes was normal. Spleen and both adrenals were normal in size. Both kidney were normal in anatomical position and stricture. Urinary bladder was distended and has smooth balls. Uterus was normal in size, shape and contours. Few sub centimetre size miscentric lymph node noted. Mild pelvic ascites noted.



**Figure 1**



**Figure 2**



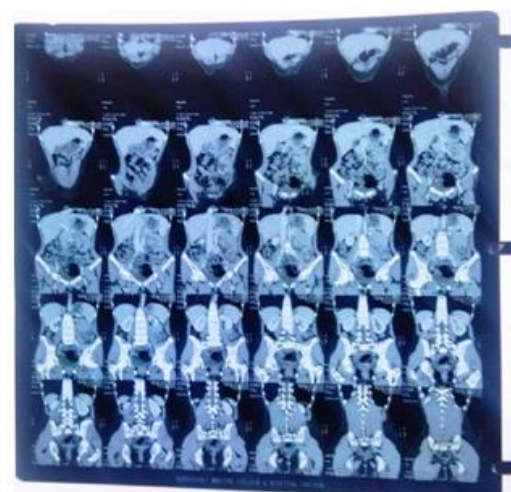
**Figure 3**



**Figure 4**



**Figure 5**



**Figure 6**

**DISCUSSION**

Internal hernias are a very infrequent aetiology of intestinal obstruction, characterised by the entrapment

of abdominal contents inside a specific compartment of the abdominal cavity. The condition in question is uncommon, occurring in less than 1% of all instances

of bowel blockage and up to 5.8% of all instances of small intestinal obstruction [2]. The sex ratio for internal hernia is often seen to be roughly three males to one female. The prevalence of paraduodenal hernia accounts for 53% of all instances of internal hernias, with left and right paraduodenal hernias comprising 40% and 13% of cases, respectively. This medical disease is characterised by the protrusion of a viscus through a hole in the peritoneum or mesentery. There are various disagreements and ideas about the actual aetiology of paraduodenal hernias. Nevertheless, the prevailing opinion posits that these anomalies arise due to a misalignment and fixation issue within the intestines, resulting in the entrapment of the small bowel between the mesocolon and the posterior abdominal wall. Right and left paraduodenal hernias are distinct entities, characterised by differences in both anatomical location and embryological genesis (3). The individuals in question have aberrant fixation of both the duodenum and jejunum. Left paraduodenal hernias are a kind of congenital malformations that arise during the process of midgut rotation. Specifically, these hernias occur when a portion of the small intestine becomes invaginated into a region of the left mesocolon that lacks blood vessels. The entrapment of the small bowel occurs when it gets positioned between the mesocolon and the posterior abdominal wall, resulting in the formation of the anterior wall of the hernia sac. Hence, there has been a suggestion to designate a paraduodenal hernia as a congenital "mesocolic" hernia, which may be a more suitable nomenclature [4]. The presence of Landzert's fossa has been seen in around 2% of the population, as reported in previous studies [5]. Paraduodenal hernias of the right side are also of congenital aetiology. Intestinal hernias occur as a result of the protrusion of the colon through a structural flaw located in the first segment of the jejunal mesentery, often referred to as Waldeyer's fossa. The presence of this condition has been observed in 1% of the population by postmortem examinations [6]. The hernia is located on the right side of the transverse mesocolon and spreads in an inferolateral direction behind the ascending mesocolon. According to previous research, it has been shown that right-sided paraduodenal hernias tend to be bigger in size and exhibit more immobility compared to left-sided paraduodenal hernias [7]. They are also linked to the condition known as small bowel non-rotation. The typical course of this particular kind of internal hernia is characterised by a lack of symptoms throughout an individual's lifespan [8]. While left paraduodenal hernia is not often included in the differential diagnosis, it is important to note that there is a 50% lifetime risk of obstruction associated with this condition [9]. The clinical manifestations of a left paraduodenal hernia exhibit a spectrum of severity, including both mild and severe presentations. These manifestations may include symptoms such as nausea, vomiting, non-specific abdominal pain, bowel obstruction, and peritonitis. From a clinical

perspective, it is seen that the majority of patients exhibit bouts of abdominal discomfort that lack clear definition. These episodes often escalate to a state of partial or total blockage of the intestines [10]. The presentation of paraduodenal hernia is characterised by a dramatic manifestation, resulting in a clinical picture that lacks specificity. Additionally, this condition often exhibits spontaneous reduction, which further complicates the process of diagnosis. While infrequent, this particular aetiology of intestinal blockage is associated with a significant death rate [11]. The general death rate is reported to be 20%. However, in the specific cases of treated strangulated bowel and untreated ischemic bowel, the mortality rates might reach up to 50% and 100% respectively, as documented in sources [3].

### CONCLUSION

The occurrence of paraduodenal hernia is infrequent and it serves as a less common aetiology for acute abdomen. As a result, the diagnosis of this condition is often inaccurate or delayed due to the diverse range of clinical presentations it exhibits. While this congenital defect is uncommon, it is important to include it as part of the differential diagnosis for patients presenting with small intestinal obstruction and no history of prior abdominal surgery. Therefore, it is essential for a healthcare professional to promptly identify the condition in order to initiate the right course of therapy.

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