

## RIGHT PARA DUODENAL HERNIA: A CASE REPORT

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### ABSTRACT

Paraduodenal hernia (PDH), a rare congenital anomaly, is a type of internal hernia which occurs due to a defect in the reduction and rotation of the midgut. On anatomical and embryological basis, PDH can be broadly divided into right- and Left PDH. Right PDH is rarer than its counterpart. We present a case of Right PDH. The patient presented with a history of pain in abdomen since last 1 year with intermittent episodes of vomiting. Patient was admitted in various institutions previously but was managed conservatively. On investigation patient was diagnosed to have right side paraduodenal hernia on CT abdomen. The jejunal loops had herniated through the fossa of Waldeyer. Jejunal loops reduced from the hernia sac and sac excised, fibrotic edges incised and defect widened. Post operatively recovery was uneventful. The rarity of this condition and the need for early diagnosis, to prevent the high risk of bowel obstruction and strangulation, makes PDH one of the difficult challenges for the clinicians.

**Keywords:** Paraduodenal; hernia, fossa of waldeyer; jejunum.

### INTRODUCTION

Internal hernia is the protrusion of viscus through an opening in the peritoneal or mesenteric fold. Paraduodenal hernia (PDH) makes up nearly 50% of all internal hernias. PDH is a rare congenital anomaly that occurs due to an error in the rotation of the midgut, through a normal or abnormal opening in the colonic mesentery [1, 2]. PDH can be classified as either right- or left-sided, depending on anatomical features and embryological origins. In Right PDH, the viscus herniates into the fossa of Waldeyer. In Left PDH, the herniation occurs in the paraduodenal Landzert's fossa. Left PDH is three times as common as the right counterpart. Right PDH is seen more in the male sex, with a 3:1 male-female ratio, whereas Left PDH does not have a gender bias [4, 5]. Surgical options, whether open or laparoscopic, aim at hernia reduction and obliteration of the hernial orifice or excision of the sac.

### CASE STUDY

A 52 years old male patient newly diagnosed as hypertensive on treatment, came with complains of pain in abdomen on and off since last 1 year, intermittent, dull aching, and mild to moderate intensity, which has increased over the period of last

2 months. Patient also had non projectile vomiting 2 to 3 episodes since last 2 months containing food particles and associated with loss of appetite. The abdomen was soft and non-tender on examination. Bowel sounds were normal. There were no abdominal scars. His haematological and biochemical parameters were within normal limits. Plain X-ray of the abdomen was unremarkable.

Patient was admitted previously for similar complaints and treated conservatively. CT abdomen was done which showed clumping of 4th part of duodenum, jejunum inferior to the 3rd part of duodenum, posterior to right colic artery and posterolateral to superior mesenteric artery and vein (Figure 1a & 1b).



Figure 1a



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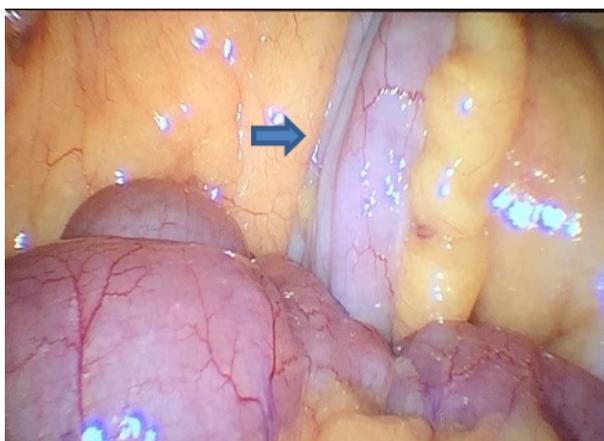
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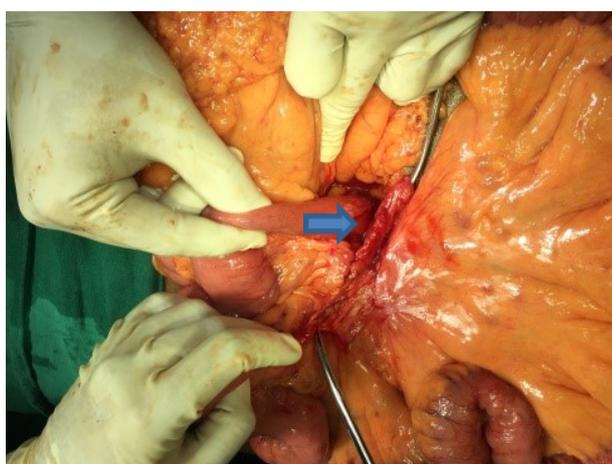


**Figure 1b.**

**Figure 1a & 1b. Clumping of 4th part of duodenum, jejunum inferior to the 3rd part of duodenum, posterior to right colic artery and posterolateral to superior mesenteric artery and vein**



**Figure 2a**



**Figure 2b**

**Figure 2a & 2b. 4 feet of jejunum with ileum going through foramen of waldeyer, with a narrow neck (Arrow indicated hernial sac.)**

Patient was posted for hernia repair. Diagnostic laparoscopy was done to assess intra-abdominal findings and surgical planning. Intraoperatively we noticed 4 feet of jejunum with ileum going through foramen of waldeyer, with a narrow neck (Figure 2a & 2b). Exploratory laparotomy was done and the hernia contents were reduced. Hernial sac was excised and abdomen was closed. Post operatively patient was shifted to ward and managed with antibiotics, analgesics, antacids and adequate hydration with general supportive care. Patient had uneventful post op period. He was started on oral diet on POD 2 and was gradually stepped up to full diet. On discharge, patient was tolerating orally and passing well formed stools. On follow up after 2 weeks, patient had no fresh complaints.

### DISCUSSION

Neubauer, in 1786, is credited with the first description of PDH in the history of medical science [2]. He ascribed it to faults in peritoneal development. Nearly a century later, Treitz described the peritoneal folds and fossae, through which the hernia retroperitoneal is develops. Over these years, several theories on the development of PDH were formulated and discarded. The two theories that have stood the test of time are:

**Moynihan’s Theory:** he attributed PDH to a condition known as ‘physiological adhesions’, which arise at the time of return of the bowel back to the abdomen and fusion of the common dorsal mesentery with the posterior abdominal wall. This leads to the formation of fusion folds and fossae (Nine such fossae were described by him). Gradual enlargement of such fossae often leads to development of PDH. The two most important fossae implicated are the fossa of Landzert (for Left PDH) and fossa of Waldeyer (for Right PDH)

**Andrews’ Theory:** Andrews respected Moynihan’s concept of fusion folds and fossae but doubted the gradual enlargement of the fossae. He ascribed the condition to the developmental fusion defects of peritoneum, which incarcerated the small bowel beneath the developing colon[6, 7].

Despite the fact that nearly half of all internal hernias are paraduodenal hernias, there are few cases reported in the medical literature, and these mostly as isolated case reports. Although internal hernias account for only 1% of all cases of intestinal obstruction, nearly 50% of all patients with PDH develop obstruction [2].

In Right PDH, the small bowel is trapped behind the mesocolon of the ascending and right transverse colon. The superior mesenteric artery is usually found on the free edge of the hernial sac, as in our cases. As in our case, the advent of computed tomography (CT) has eased the brain-storming sessions previously required to arrive at the diagnosis [8].

The treatment approach for PDH is based on the princi-

ple of hernia reduction, plus either repair of the defect or widening of the hernial orifice [2]. As the superior mesenteric vessels lie in close proximity to the hernial orifice, any attempt to open the sac at the hernial orifice should be discouraged.

### CONCLUSION

PDH remains elusive in its diagnosis. A reliable anatomical knowledge of the peritoneal and mesenteric folds and, in cases with chronic recurrent abdominal pain with partial obstruction, a high degree of suspicion, are of paramount importance. The technological advantages of radiology should be sought early in such cases, so that a prompt surgical intervention prevents the high morbidity and mortality associated with PDH.

### REFERENCES

- 1) Moran JM, Salas J, Sanjuán S. Paramesocolic hernias: consequences of delayed diagnosis. Report of three new cases. *J Pediatr Surg* 2004;39:112–6.
- 2) Brigham RA. Paraduodenal hernia. In: Nyhus LM, Condon RE, editors. (ed.) *Hernia*. 4th ed Philadelphia: Lippincott Williams and Wilkins, 1995.
- 3) Desjardins AU. Left paraduodenal hernia. *Ann Surg* 1918;67:195–201.
- 4) Khan MA, Lo AY, Vande Maele DM. Paraduodenal hernia. *Am Surg* 1998;64:1218–22.
- 5) Moynihan GBA. *On retroperitoneal hernia*. New York: William Wood and Co, 1906.
- 6) Andrews E. Duodenal Hernia: a misnomer. *Surg Gynecol Obstet* 1923;37:740.
- 7) Bartlett MK, Wang C, Williams WH. The surgical management of paraduodenal hernia. *Ann Surg* 1968;168:249–54.
- 8) Nobuyuki T, Takehiko G, Yoshimitsu O. CT of internal hernias. *Radio Graphics* 2005;25:997–1015.

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