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A rare case of left paraduodenal hernia: A case report

Nadir görülen sol paraduodenal herni vakası: Bir olgu sunumu

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Abstract

The paraduodenal hernia, is formed by a potential cavity next to the ligament of Treitz and malrotation of the midgut. These hernias, which are the most frequently seen type of internal hernia, are responsible for approximately 1% of small intestine obstructions.

A patient was admitted to the emergency room with complaints of abdominal pain and the inability to defecate. A computed tomography cross section that passed through the abdominal right upper quadrant, adjacently to the duodenal intestinal ansae within a hernia sac, showed a portion of the transverse colon and dilated mesenteric vascular structures. The patient underwent an exploratory operation that showed an orifice of approximately 3 cm in the ligament of Treitz and a shifting of almost all the small intestines and a portion of the transverse colon to the paraduodenal surface. The herniated structures were reduced at that point and the defect from the ligament of Treitz was sutured with non-absorbable suture material and closed.

The paraduodenal hernia is a rare cause of intestinal obstruction but may result in late diagnosis and life threatening conditions such as intestinal gangrene. A patient with an intestinal obstruction who has not undergone a previous abdominal procedure should be considered as potentially having a paraduodenal hernia and should be immediately diagnosed in order to undergo surgical treatment.

Keywords: Hernia, intestinal obstruction, internal hernia

Öz

İnternal herninin bir tipi olan paraduodenal herniler Treitz ligamentinin yakınındaki potansiyel bir boşluktan ve ortabarsağın malrotasyonundan dolayı oluşur. Paraduodenal herniler, internal hernilerin en sık görülen formudur ve ince barsak obstrüksiyonlarının yaklaşık %1'inden sorumludur.

Bir hasta acil kliniğine karın ağrısı ve gaz gaita çıkaramama şikayetleriyle müracaat etti. Batın sağ üst kadran seviyesinden geçen bilgisayarlı tomografi kesitinde, duodenum komşuluğunda bir herni kesesi içerisinde intestinal anslar, transvers kolonun bir kısmı ve dilate mezenterik vasküler yapılar izlendi. Hastaya tanısal laparatomi yapıldı. Yapılan eksplorasyonda Treitz ligamentinde yaklaşık 3 cm'lik bir açıklık olduğu ve buradan ince barsakların tamamına yakınının ve transvers kolonun bir kısmının paraduodenal bölgeye geçmiş olduğu görüldü. Bunun üzerine herniye olan yapılar redükte edildi. Daha sonra Treitz ligamentindeki defekt emilmeyen sütür materyali ile sütüre edilerek kapatıldı.

Paraduodenal herni intestinal obstrüksiyonun nadir bir nedenidir. Bundan dolayı tanıda geç kalınarak barsak gangreni gibi hayati tehlike yaratabilecek durumlara yol açabilir. Bu durumu engellemek için daha önceden karın ameliyatı geçirmemiş intestinal obstrüksiyonlu hastalarda paraduodenal herni olabileceği düşünülmeli ve gecikmeden tanısı konularak hastaya cerrahi tedavi uygulanmalıdır.

Anahtar Kelimeler: Paraduodenal herni, intestinal obstrüksiyon, internal herni

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Introduction

An internal hernia result from protrusion of one or more abdominal viscera through an intraparietal opening with the herniated viscera remaining inside the peritoneal cavity [1].It is one of the rare causes of an acute abdomen and can result in intestinal obstruction and ischemia if not treated in a timely manner [2,3]. One type of internal hernia, the paraduodenal hernia, is formed by a potential cavity next to the ligament of Treitz and malrotation of the midgut [4]. These hernias, which are the most frequently seen type of internal hernia, are responsible for approximately 1% of small intestine obstructions [5].

Our aim in this study is to present a left paraduodenal hernia case who was admitted with intestinal obstruction and to describe our approach to therapy.

Case Report

A 25-year-old male patient was admitted to the emergency room with complaints of abdominal pain and the inability to defecate. The patient had experienced this abdominal pain occasionally for nearly 2 years. The patient had no disease or operative history. His white blood cell count was 12500/mm^3. The other laboratory findings were normal. A physical examination of the patient revealed moderate abdominal sensitivity. No defense or rebound was noted. Air-liquid levels were evident during a direct abdominal radiography in the standing position. A computed tomography scan showed adjacently to the duodenal intestinal ansae within a hernia sac, showed a portion of the transverse colon and dilated mesenteric vascular structures (arrows) (Figure 1).

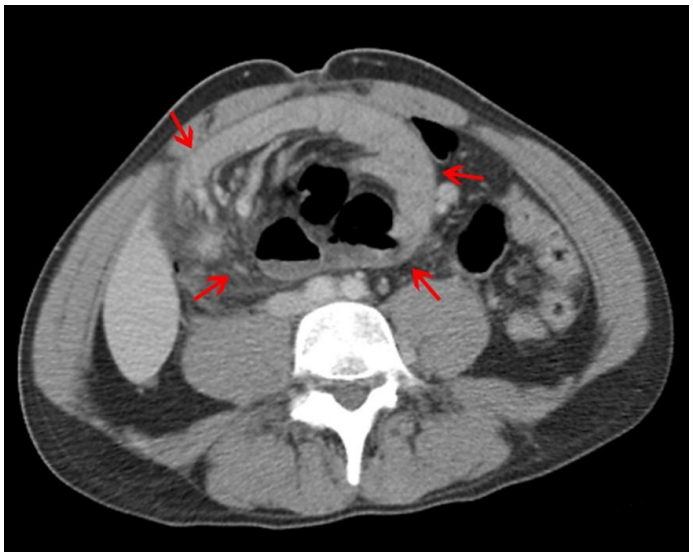

Figure 1: A computed tomography section showed a portion of the transverse colon and dilated mesenteric vascular structures (arrows).

The patient underwent an exploratory operation at about 12 hour post hospitalization. The exploration showed an orifice of approximately 3 cm in the ligament of Treitz and a shifting of almost all the small intestines and a portion of the transverse colon to the paraduodenal surface (Figure 2).

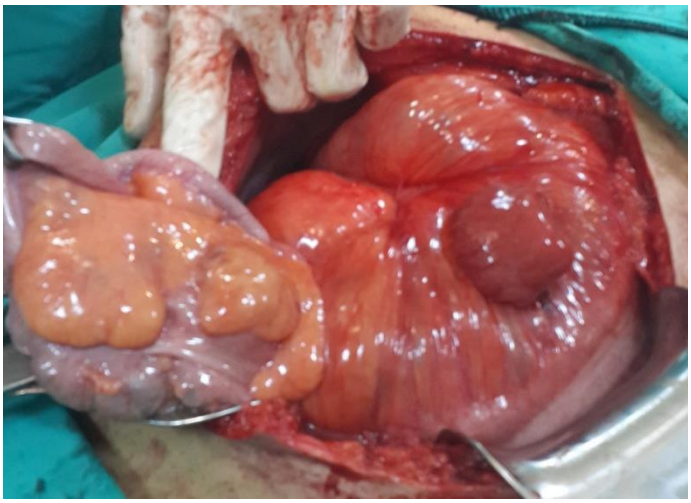

Figure 2: The picture showed beginning of exploration.

The herniated structures were reduced at that point and the defect from the ligament of Treitz was sutured with non-absorbable suture material and closed. A color alteration initially noted in the proximal small intestinal segments became normal within about 15 minutes (Figure 3). The patient was discharged as healthy on the 6th post operative day.

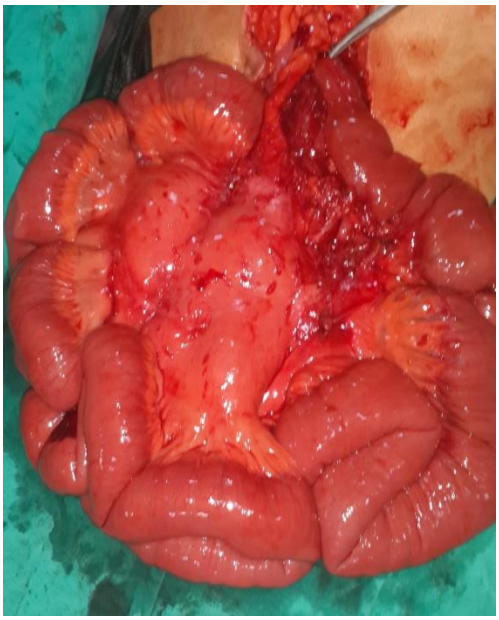

Figure 3: The small intestine after it is taken out from hernia sac.

Discussion

Internal hernias are rare pathologies that account for fewer than 2% of small intestine obstructions [6,7]. The paraduodenal hernias, the most frequent reason for congenital internal hernias, are responsible for approximately 1% of the small intestine obstructions [7]. These paraduodenal hernias are divided into right and left types, according to their intraabdominal location. The left paraduodenal hernia is defined as a herniation of the intestines from the Landzert fossa, which is an orifice found in almost 2% of the population [8].

The clinical symptoms are recurring cramp-like pains, intestinal obstruction due to torsion, sickness, vomiting, and abdominal distension [3,9]. Almost 50% of paraduodenal hernia patients experience intestinal obstruction attacks periodically during their lifetimes. The remaining 50% are asymptomatic and are diagnosed incidentally [9]. Our patient had intestinal obstruction findings and had experienced abdominal pains occasionally for the previous 2 years.

Radiologic viewing methods are necessary for the early diagnostic and planning of the surgical treatment. The intestinal obstruction is diagnosed with direct abdominal radiography with the patient in a standing position. The ultrasonography may show the presence of intraabdominal liquid, internal tubular cysts, or abdominal masses. Celiac and superior mesenteric arteriography may show a shift of the jejunal or splenic arteries to the left [10]. Gastrointestinal graphics with barium may show dilated small intestine loops from the upper abdominal quadrant, obstruction points, or slowing down of the contrast substance flow [8,11]. Computed tomography is very important for the diagnosis of the paraduodenal hernias [3].

Frequently observed radiologic findings of the left paraduodenal hernia include the clustering of the small intestine loops, the ligament of Treitz, a mass in the form of a sac with no capsule, depression of the duodenojejunal junction site, a mass effect on the posterior wall of the stomach, dislocation of the main mesenteric veins, and depression of the transverse colon [6]. The direct abdominal radiography of our patient in a standing position revealed small intestinal type of air-liquid levels. The patient's computed tomography images revealed intestinal ansae in a hernia sac adjacent to the duodenum, a portion of the transverse colon, and dilated

mesenteric vascular structures.The surgical procedure should reduce the herniated intestine segments and the hernia orifice should be closed. Care should be taken to avoid injury to the left colic artery and inferior mesenteric arteries [12]. Left paraduodenal hernias have a 50% risk of lifelong incarceration [3,5,13,14]. The mortality rates associated with paraduodenal hernias are not well established, although rates around 20-50% are reported [14].

Left paraduodenal hernias should be treated surgically as soon as they are diagnosed since they have the risk of intestinal ischemia associated with obstruction and strangulation.

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