Case Report / *Olgu Sunumu*

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A Cause of Acute Abdomen that Should not be Neglected: Left Paraduodenal Hernia

Göz ardı Edilmemesi Gereken Bir Akut Batın Nedeni: Sol Paraduodenal Herni

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Abstract

Left paraduodenal hernia (LPH) is a congenital condition which develops as a result of abnormal rotation of the midgut. Generally, small intestines are wedged into the hernial sac leading to symptoms of ileus. In neglected cases, necrosis may be present and these cases may progress to fatal outcomes. In this article, we present a case of LPH which was detected on computed tomography in a patient admitted to the emergency department at our hospital with the complaints of abdominal pain who had no history of previous surgery. In laparotomy, jejunal and ileal segments which were inside the hernial sac were removed back to the abdominal cavity. The defect in the patient without any sign of necrosis was closed primarily.

Keywords: Left paraduodenal hernia, acute abdomen, internal hernia, intestinal obstruction

Öz

Sol paraduodenal herni (SPH) orta barsağın anormal rotasyonu nedeniyle oluşan konjenital bir durumdur. Herni kesesi içerisinde genelde ince barsaklar bulunmakta ve ileus semptomlarına sebep olmaktadır. Gecikmiş olgularda nekroz görülebilir ve bu olgular ölümcül seyredebilir. Biz bu yazıda hastanemiz acil servisine karın ağrısı şikayeti ile gelen ve geçirilmiş operasyon öyküsü olmayan hastada bilgisayarlı tomografide de tespit edilen SPH olgusunu takdim ettik. Laparotomide herni kesesi içerisindeki jejunal ve ileal segmentler batın içerisine alındı. Nekroz bulgusu olmayan hastada defekt primer olarak tamir edildi.

Anahtar Sözcükler: Sol paraduodenal herni, akut batın, internal herniasyon, intestinal obstrüksiyon

Introduction

Left paraduodenal hernia (LPH) is a rare congenital anomaly resulting from of abnormal rotation of the midgut and may lead to serious conditions (1). Long-lasting nonspecific abdominal pain, nausea, vomiting, lack of gas-stool discharge and signs of peritonitis that suggest acute abdomen may be encountered as symptoms. Although abdominal computed tomography (CT) is successful in diagnosis, symptoms of PH share similarities with many other intraabdominal pathologies and when it is not handled carefully, this may lead to delay in diagnosis or misdiagnosis. On this regard, it must be remembered that it is a pathology which may lead to fatal consequences (2,3). Despite highly advanced radiological diagnostic technologies, there are still LPH cases which may be diagnosed via laparotomy.

Case

A 58-year-old female patient was admitted to our emergency department with the complaint of severe abdominal pain. It was learned that the patient had abdominal pain for the past three-four months, it occurred intermittently and disappeared after it persisted for a couple of hours. The abdominal pain that started one day ago for the last time was persisting till she was admitted to emergency department. She had nausea but no vomiting. She had no gas-stool discharge for the last one day. She had no history of previous abdominal surgery or of medication use. In physical examination of the patient which was performed in the emergency department, tenderness and guarding were determined in the left upper quadrant, there was also mild distension. Her blood test results were as follows: white blood cell: 11900/mm^3, hemoglobin: 13 g/dL, C-reactive protein: 0.7 mg/dL, and

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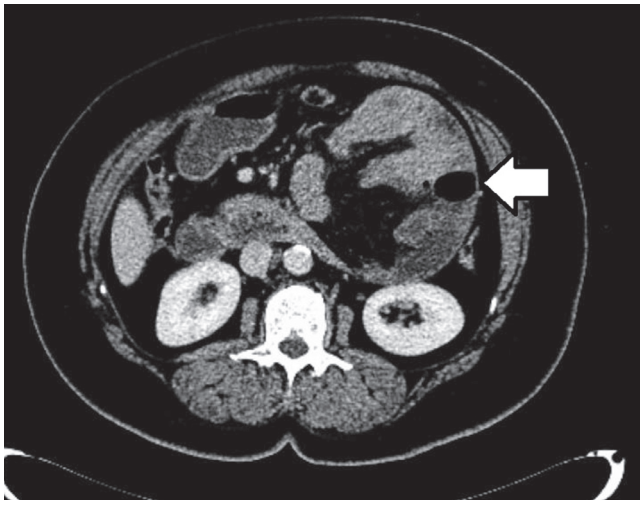

Figure 1. Intestinal loops clumped to left upper quadrant in axial section on computed tomography

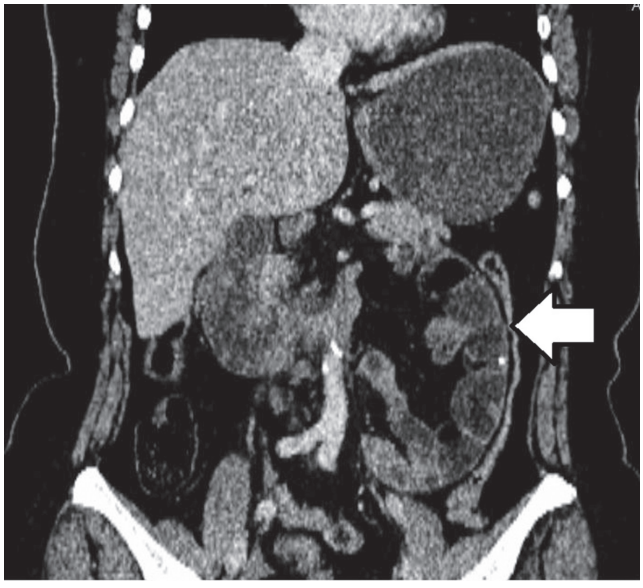

Figure 2. Pathognomonic image of small intestinal loops clumped in left upper quadrant in coronal section on computed tomography

lactate dehydrogenase 275 U/L. X-ray, was unremarkable except for dense gas appearance in the left quadrant. On abdominal CT scan, it was determined that jejunal and ileal intestinal loops were localized in the left upper quadrant of the abdomen as encapsulated and the diagnosis of LPH was made (Figure 1-3).The patient underwent emergency laparotomy. During laparotomy, it was observed that 70 cm of jejunal and ileal small intestinal segments from the defect in close proximity to Treitz ligament were settled posterior to transverse mesocolon (Figures 4, 5). The small intestinal loops that entered into the hernial sac were reduced. While evaluating the intestines, no finding of necrosis was confronted and the blood supply was found

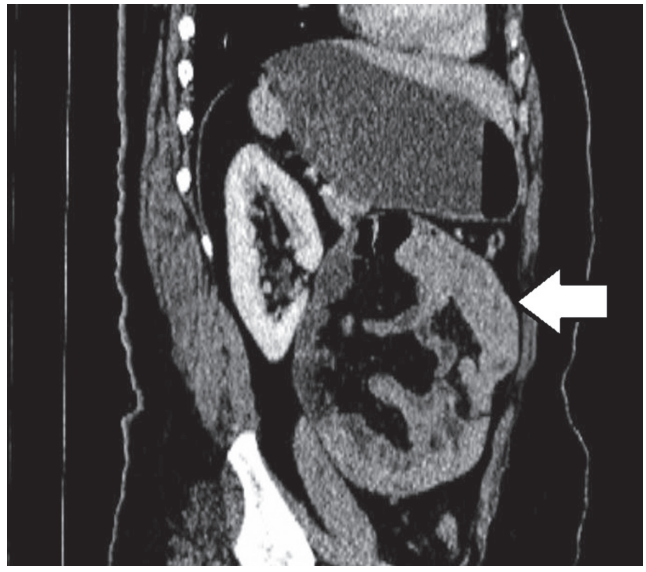

Figure 3. Intestinal loops clumped to left upper quadrant in sagittal section on computed tomography

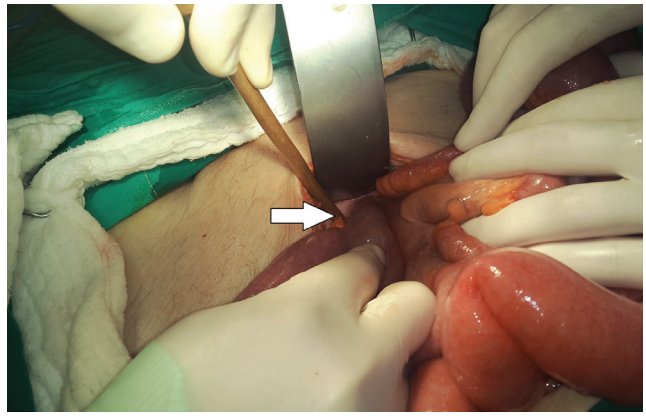

Figure 4. Hernia sac and small intestinal loops removed from inside of it, after laparotomy

to be satisfactory. The entrance of the hernial sac was repaired by closing primarily with 1.0 Vicryl. The patient who did not have any problems during postoperative follow-up started to be fed orally on the day two and was discharged on the day four. She is being followed up problem-free for approximately two years.

Written informed consent was by participant signed.

Discussion

Internal herniations, which may be congenital or acquired, are one of the rare causes of intestinal obstruction. Among causes of intestinal obstruction, internal herniations account for 0.5% to 5.8% of all cases (4). There are various types of internal herniations, the most common one being PH (53%) (2,3,5,6). Other types of internal herniations may include periceacal (13%), epiploic foramen (8%), trans-mesenteric and trans-

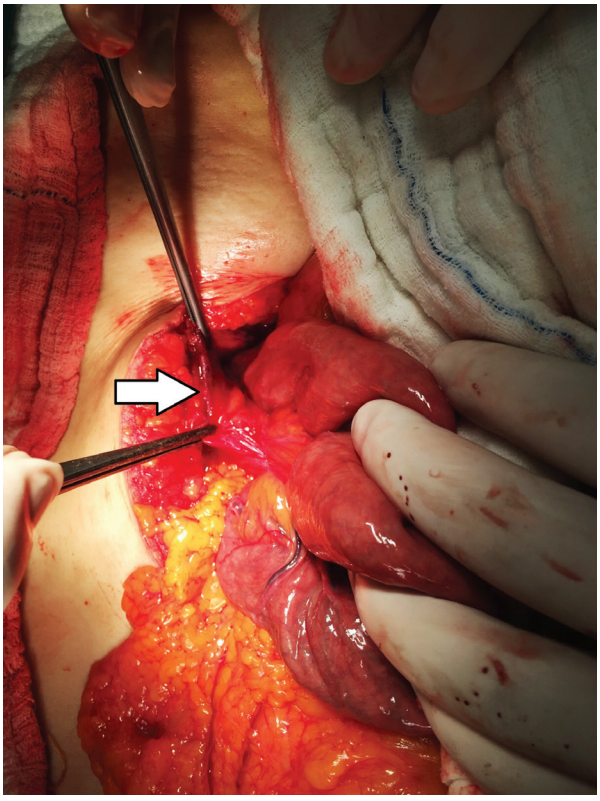

Figure 5. Image concerning entrance of hernia sac that obtained after the small intestinal loops within the hernia sac were reduced

mesocolic (8%), intersigmoid (6%) and retro-anastomotic (5%) (5). Although the patient presented in the article was female, it is more prevalent in males. It occurs at any age, however, it is diagnosed most commonly at ages between 40 and 60 (2,3). PH has two types: right-sided and left-sided which is 3 fold more prevalent than right-sided PH (2,3).

Pathogenesis of PH has been thought to result from problems occurring during rotation and fixation of the midgut (1). Small intestinal loops enter into a cavity called fossa of Landzert, which is localized between the mesocolon and posterior abdominal wall, lateral to 4th part of the duodenum and posterior to the inferior mesenteric vein, forming this herniation (7). Clinical manifestations of LPH has a broad spectrum which may vary between mild nonspecific abdominal pains to signs of severe peritonitis (2,6,8). Although nausea, vomiting, abdominal pain, constipation and distension may not be present in all patients, they are major symptoms in many patients, as they were in our patient. Many patients may describe a history of previous nonspecific short-lasting abdominal pain (6). Symptoms seen in this clinical entity may share similarities with various different intraabdominal pathologies and, therefore, making diagnosis of LPH may be challenging. Likelihood of small intestinal loops entered into a hernial sac to reduce spontaneously to intraabdominal cavity may be another reason of missing out of the diagnosis in patients who present with subtle abdominal findings. On X-ray, small intestinal loops clumped into LPH sac may be observed; if ileus is present, dilated loops and air-fluid levels may be seen (9). CT is quite successful in diagnosis. On CT, LPH sac encapsulated cluster of small intestinal loops may be observed, as it was the case in our patient, and generally diagnostic (10). Additionally, on CT, there may be some other findings suggesting LPH, these may include dilated small intestinal loops proximal to the obstruction and air-fluid levels; anterior transposition of the stomach, distal transposition of the transverse colon and inferomedial transposition of the duodenojejunal junction, due to mass effect; and findings suggesting dilation or distension of mesenteric vessels or anterior transposition due to pressure (2,4). However, there are cases which cannot be diagnosed via CT but diagnosed through laparotomy or laparoscopy. Barium imaging techniques may be beneficial in diagnosis (4). Laparoscopic or open surgical methods may be preferred in the treatment of LPH (2,8). Primary sewing of entrance of the sac after the intestinal loops stuck in the hernial sac are reduced is the most commonly recommended and performed method and the method also we preferred. Absorbable or non-absorbable sutures may be used (8). Leaving entrance of the hernial sac as dilated may also be considered as a treatment but it is rarely preferred (8,11). There are surgeons who recommend complete excision of the hernial sac but its application is generally avoided, as it may cause mesocolic or vascular injury (8,11). In the presence of necrosis, that is usually observed in advanced stage, resection may be required due to increased risk of mortality and morbidity (6,12). Laparoscopic approach has been reported to reduce postoperative pain, to shorten the length of hospital stay, to allow early oral feeding and to decrease postoperative morbidity (2). In conclusion, LPH is a rare cause of acute abdomen. Prompt diagnosis in patients presenting with clinical manifestations of intestinal obstruction is extremely important for saving the patient's life. Although CT is successful in diagnosis, in these rarely seen cases, it is important to be familiar with characteristic CT images and to consider LPH in pre-diagnosis. It should be remembered that a delay in diagnosis may be mortal for a patient.

Authorship Contributions

Surgical and Medical Practices: M.U., E.A., M.A.U., Concept: M.U., E.A., M.A.U., Design: M.U., E.A., Data Collection or Processing: M.U., M.A.U., Analysis or Interpretation: M.U., E.A., Literature Search: M.U., E.A., M.A.U., Writing: M.U.

Conflict of Interest: No conflict of interest was declared by the authors.

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