

# Incarcerated appendix epiploica in a right inguinal hernia sac

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## ABSTRACT

Appendix epiploica without a colon in the hernia sac is a rare condition, which is even rarer if it has hypertrophy and presents as an irreducible hernia. We describe a case of appendix epiploica in a 37-year-old male patient with a strangulated right inguinal hernia that was herniated to the right inguinal canal. Considering the superiority of laparoscopy to open technique for viewing the hernia contents, we planned laparoscopic transabdominal preperitoneal surgery. In the exploration, an indirect hernia was observed in the right groin. Inside was the strangulated appendages epiploica, which extended from the sigmoid colon wall. Anterior wall inguinal hernioplasty was performed. In conclusion, it should not be ignored that there may be appendix epiploica within the hernia sac in inguinal hernias and laparoscopic approaches should be the treatment method of choice.

**Keywords:** Appendix epiploica; strangulated inguinal hernia; transabdominal preperitoneal approach.

## INTRODUCTION

One of the most common procedures performed in daily surgical practice is inguinal hernia repair. Approximately 10% of inguinal hernias can be incarcerated and are a life-threatening clinical emergency.<sup>[1]</sup> Incarcerated hernias require urgent surgical intervention regardless of their size and location due to a higher rate of complications than non-incarcerated hernias. The small intestinal loop or part of the major omentum is the most common ingredient of incarcerated inguinal hernia. It is possible to encounter some parts of the colon, bladder, uterine tube, ovary, Meckel diverticulum, and other organs in strangulated inguinal hernias.<sup>[2]</sup>

One of the rarest kinds of this hernia type is appendix epiploica.<sup>[3]</sup>

In this article, we aimed to present a 37-year-old male patient who was admitted to the emergency department with swelling and pain in the right groin area, in which he had for a day.

## CASE REPORT

A 37-year-old male patient presented to the emergency department with swelling and pain in the right groin area, in which he had for a day. The patient had not had such a symptom before. He had no nausea or vomiting, and there had been gas and stool discharge during the day. The patient had no additional diseases and no history of drug use. No fever was detected and his pulse and blood pressure were normal. On physical examination, a painful and irreducible mass of about 6 cm in size was palpated in the right inguinal area. Bowel sounds were heard normally on auscultation. No other abnormality was detected. In laboratory tests, hemoglobin level, white cell count, and liver and kidney function tests were within normal limits. Some anechoic fluid in the inguinal canal was noticed distal to the inguinal hernia. Considering the superiority of laparoscopy to open technique for viewing the hernia contents, we planned laparoscopic transabdominal preperitoneal (TAPP) surgery. In the exploration made with the camera port entered from under the umbilicus, an indirect hernia was observed in the right groin (Fig.

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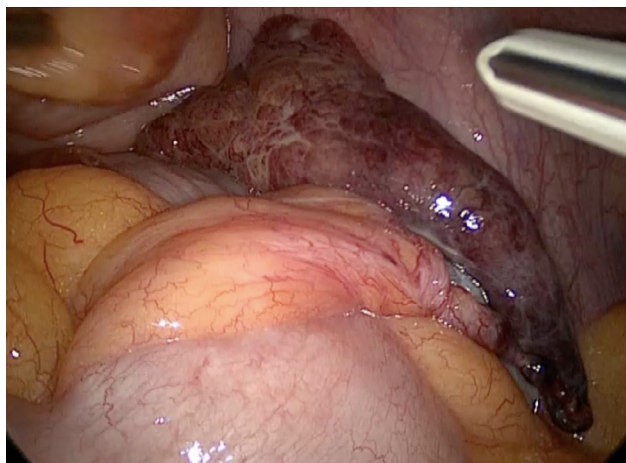
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1). Inside was the strangulated appendages epiploica, which extended from the sigmoid colon wall (Fig. 2). The left groin was normal. There was no pathology in other organs that were imaged in the abdomen. Two 5-mm trocars were inserted from the right and left sides of the umbilicus. The strangulated appendices were released. Then, a flap was prepared with a transverse peritoneal incision in the right groin, starting from the superomedial of the spina iliaca anterior superior to the medial ligament in the middle. Anatomic landmarks were revealed using a Ligasure® device with blunt and sharp dissection. The inguinal ligament of Cooper was fully exposed. Hesselbach's triangle was solid. The right femoral canal and right obturator canal were exposed. The hernia was not seen. The indirect hernia sac was removed by dissection. A giant cord lipoma was removed. A Bard 3DMax L® (11×16 cm) patch was passed inside and laid in the appropriate location. Capsure® was fixed using a stapler to the pubic symphysis, inguinal ligament of Cooper, and lateral superior wall. The peritoneal flap was closed using V-Loc® 3/0. The surgery was terminated. No blood loss or any complications occurred during the procedure. The patient was discharged on the 1<sup>st</sup> postoperative day without any problems and re-



**Figure 1.** Intraoperative view of the strangulated appendiceal epiploica in the right inguinal canal.



**Figure 2.** Strangulated appendiceal epiploica removed from the right inguinal canal.

mained asymptomatic during follow-up visits. A histopathologic examination revealed no malignancy.

## DISCUSSION

Epiploic appendages are peritoneal extensions originating from the colon serosa containing adipose tissue and vascular structures. They can be found in segments of the colon from the cecum to the rectosigmoid junction and even around the appendix vermiformis. Although its exact function is unknown, epiploic appendages are thought to have omentum-like immune-related functions as well as colonic absorption and colonic peristalsis.<sup>[4]</sup> Epiploic appendicitis usually presents with symptoms such as loss of appetite, nausea, vomiting, abdominal pain, and fever. It is mostly a self-limiting condition and is followed up with conservative treatment in most centers. The inflammation of epiploic appendicitis can be primary or secondary depending on a variety of factors. However, one of the rare reasons for secondary torsion is incarceration into the hernia sac.

The strangulation of an epiploic appendage in an inguinal hernia was first described independently by Schweinburg and von Bruns in 1906.<sup>[5]</sup> The majority of publications in the literature show that the sigmoid epiploic appendage is strangulated in the left inguinal hernias.<sup>[2,3]</sup> However, in our case, it was found on the right side. Epiploic appendagitis is very rare as an inguinal hernia. There have been a few case reports on this subject in the literature, and most cases were managed with open surgery. Only two patients have been treated with laparoscopic TAPP.<sup>[6,7]</sup>

Unusual structures may be encountered in the strangulated inguinal hernia sac.<sup>[8]</sup> Radiologic imaging together with a physical examination and a detailed history is important in the selection of the appropriate surgical procedure.<sup>[9]</sup> Advanced imaging methods cannot always precisely define the contents of the hernia sac. Therefore, we chose the laparoscopic approach due to its diagnostic and therapeutic advantages compared with open surgery.<sup>[9]</sup> After anesthesia induction or during surgery, the contents of the hernia sac may escape back into the abdomen, so a laparotomy or laparoscopy may be required to observe and examine the contents of the sac. On the other hand, due to the advantage of detecting incidental hernias, laparoscopic treatment can also be used in such irreducible hernias.

## Conclusion

It should not be ignored that there may be appendix epiploica within the hernia sac in inguinal hernias and laparoscopic approaches should be the treatment method of choice.

**Informed Consent:** Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

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**Conflict of Interest:** None declared.

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## OLGU SUNUMU - ÖZ

### Sağ kasık fitığı içinde boğulmuş apendiks epiploika

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Fitik kesesinde tek başına apendiks epiploika nadirdir, bununla birlikte hipertrofi varsa ve boğulmuş bir fitik olarak ortaya çıkarsa daha da nadir görülen bir durumdur. Otuz yedi yaşında erkek hastada sağ kasık kanalına herniye olmuş apendiks epiploika olgusunu sunuyoruz. Laparoskopinin fitik içeriğini görüntülemek için açık tekniğine üstünlüğünü göz önünde bulundurarak laparoskopik Trans-Abdominal Pre-Peritoneal cerrahi planladık. Yapılan incelemede sağ kasıkta indirekt herni görüldü. İçeride boğulmuş apendiks epiploika vardı ve sigmoid kolon duvarından uzanıyordu. Ön duvar inguinal hernioplasti yapıldı. Sonuç olarak kasık fitiklerinde fitik kesesi içinde apendiks epiploika olabileceği göz ardı edilmemeli ve laparoskopik yaklaşımlar tercih edilecek tedavi yöntemi olmalıdır.

**Anhtar sözcükler:** Apendiks epiploika; etringle inguinal herni; transabdominal preperitoneal yaklaşım.

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