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A Rare Complication Years After Abdominal Surgery: Incarcerated Drain-site Hernia

Abdominal Cerrahiden Yıllar Sonra Nadir Bir Komplikasyon: Inkarsere Dren Yeri Fıtığı

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ABSTRACT

Drain-site hernia is an exceptionally rare complication, primarily occurring shortly after the removal of drains. Comorbid conditions that hinder wound healing, along with factors contributing to increased intra-abdominal pressure, are identified as risk factors. Notably, the use of drains with a diameter larger than 10 mm has been specifically linked to this complication. In this report, we present a case of drain-site hernia that developed 40 years after intra-abdominal surgery, and progressed with small bowel incarceration. The main objective is to question the routine utilization of drains and explore critical factors influencing drain selection, given that this case highlights an extremely rare and delayed complication associated with drain use. A selective approach is more appropriate than the routine use of drains after intra-abdominal surgery.

Keywords: Abdominal drain, drain-site hernia, small bowel incarceration

Öz

Dren yeri fıtığı oldukça nadir görülen bir komplikasyondur. Vakaların çoğunda dren çekildikten sonra erken dönemde ortaya çıkar. Karın içi basıncı artıran faktörlerin yanı sıra yara iyileşmesini bozan yandaş hastalıklar da risk faktörlerindendir. Özellikle çapı 10 mm'nin üzerinde olan drenlerin kullanımı ile ilişkilendirilmiştir. Bu makalede abdominal cerrahiden 40 yıl sonra gelişen ve ince barsak inkarserasyonu ile seyreden bir dren yeri fıtığı olgusu sunulmuştur. Dren ilişkili bu çok nadir geç komplikasyon aracılığı ile drenlerin rutin kullanımının sorgulanması ve dren seçiminde dikkat edilmesi gereken faktörlerin tartışılması amaçlanmıştır. İntraabdominal cerrahi sonrası rutin dren kullanımındansa seçici bir yaklaşım daha uygundur.

Anahtar Sözcükler: Abdominal dren, dren yeri fıtığı, ince barsak inkarserasyonu

INTRODUCTION

Intra-abdominal drains remain an integral part of numerous abdominal surgical procedures. However, their use can lead to various complications, such as infection, hemorrhage, intestinal perforation, and in rare cases, drain site evisceration (1-3). These complications typically manifest during the early postoperative period. Conversely, drain-site hernia is an exceptionally rare and late complication associated with the use of drains. In this report,

we present a unique case of drain-site hernia that emerged four decades after an intra-abdominal surgery and led to small bowel incarceration.

CASE REPORT

A 77-year-old male patient presented with a complaint of painful swelling in the abdomen following a coughing episode. The patient's medical history includes hypertension, diabetes mellitus,

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and had undergone emergency laparotomy 40 years ago due to a traffic accident, involving a segmental bowel resection. The patient mentioned that until the day he sought medical attention, there had been no swelling or mass in his abdomen. Upon examination, a painful and tender mass was palpated in the left lower quadrant. Notably, a 2 cm scar was observed on the skin above the mass, which the patient identified as the site of the drain used during the operation four decades ago.

Ultrasonographic examination revealed a 2 cm diameter fascial defect on the abdominal wall. Furthermore, a hernial sac containing hyperechoic omental fatty tissue and an intestinal loop was visualized (Figure 1). The afferent bowel wall exhibited significant edema. As a result, the patient underwent emergency surgery to address the issue. Although the defect was small, the hernia sac was remarkably large (Figure 2). During the procedure, the hernia sac, which contained the omentum and a loop of the small intestine,

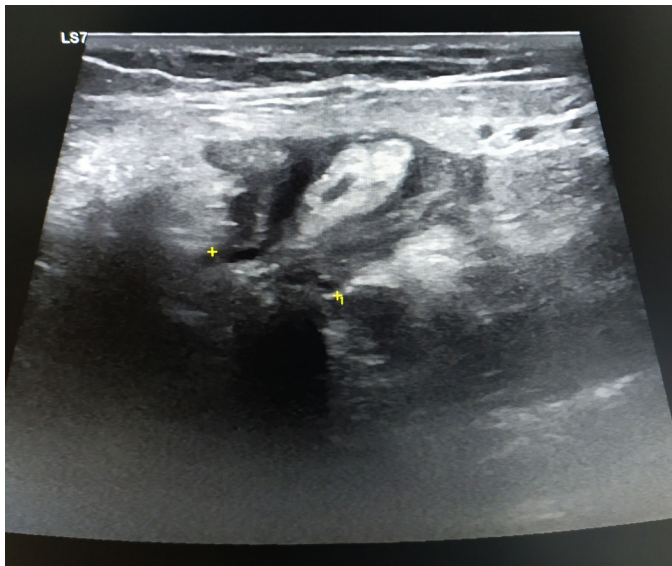


Figure 1. Ultrasonographic image of incarcerated hernia sac.



Figure 2. Intraoperative view of the drain-site hernia sac.

was carefully opened. Although the tissues in the hernia sac were highly edematous, there were no signs of strangulation. To facilitate reduction, the defect was slightly enlarged, and the intestine and omentum were successfully reduced into the abdomen. Subsequently, a primary repair was performed, and a self-gripping polypropylene mesh, with a diameter of 10x10 cm, was applied. The patient was discharged on the second day following the operation. Written and informed consent for publication was obtained from the patient.

DISCUSSION

The debate on intraabdominal drainage is still ongoing. Several studies have highlighted potential complications associated with prophylactic drain use, including infection, evisceration, adhesion, intestinal erosion, anastomotic separation, bleeding, increased postoperative abdominal pain, and decreased pulmonary function (1-4). The lack of consensus on the routine use of drains in various surgical procedures is evident, and no standardized algorithm exists concerning the features of drains, such as diameter, vacuum, and material. In clinical practice, the surgeon's experience and preference often play a role in determining the choice of drainage after abdominal surgery, while institutional facilities may also influence the characteristics of the selected drain.

Drain site evisceration following abdominal surgery is an infrequently reported complication. Notably, in most of the reported cases, the diameter of the drain used has been found to be 10 mm or more (1,2). Although we lack information regarding the diameter of the drain used in our patient, the presence of a 2 cm skin scar suggests the use of a large-diameter drain was used.

Typically, hernias tend to occur during the early postoperative period, often within hours after drain removal (1,2). Several factors contribute to the development of hernias, including conditions that increase intra-abdominal pressure, such as post-operative vomiting, cough, constipation, mechanical ventilation, and post-operative ileus, as well as factors that impede wound healing, such as poor nutritional status, diabetes mellitus, and steroid therapy (1-3,5). In our case, the incarcerated hernia occurred a remarkably 40 years after drain removal. The fact that it developed after a cough indicates that a sudden increase in intra-abdominal pressure can provoke a fascial defect or weaken the drain site, even after an extended period.

Various studies propose strategies to decrease complications related to drain usage following abdominal surgery. These strategies encompass the use of drains with a diameter below 10 mm, positioning drains at an oblique angle through the abdominal wall, gradual removal of the drains, and employing a purse string suture for closure post-removal (2,5,6). Furthermore, it is strongly advised to exercise caution when deciding to use drains, ensuring they are employed only when necessary (1,4). Several studies indicate that routine drain use is not imperative for many intra-abdominal surgical procedures (4,7).

CONCLUSION

A selective approach is more appropriate than the routine use of drains after intra-abdominal surgery. By preferring a small-diameter drain and careful placement and removal, reduce drain-related

complications. It should be kept in mind that a hernia may develop even many years after the drain is removed.

Ethics

Informed Consent: Written and informed consent for publication was obtained from the patient.

Footnotes

Authorship Contributions

Surgical and Medical Practices: R.K., M.E., Concept: R.K., Design: M.E., Supervision: R.K., Resources: M.E., Material: M.E., Data Collection or Processing: M.E., Analysis or Interpretation: R.K., Literature Search: M.E., Writing: R.K., M.E., Critical Review: R.K.

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