



Incisional Hernia at Trocar Port-Site

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Abstract:

Trocar-site hernia is a serious complication in laparoscopic surgery with incidence of 1% to 2%. Trocar size, particularly larger than 5-mm, leaving fascial defect open and inserting site of the large trocar may be related to the problem among several factors regarding the technique and the host. It is crucial to consider hernia through trocar site and to perform further intervention when suspected clinical findings due to obstruction of small bowel or omentum such as pain and distension are detected. In this case, a 44-year-old woman who underwent an uncomplicated laparoscopic hysterectomy but was diagnosed with small bowel herniated through right 10-mm trocar site at postoperative third day is reported. It seems to be reasonable to avoid using lower quadrant sites for larger trocars and close all trocar sites in order to prevent the trocar-site hernias which can cause serious morbidity and mortality so that need prompt diagnosis and intervention.

Key words: Hernia, Hysterectomy, Laparoscopy, Omentum, Pain.

Introduction

Trocar-site hernia, which was first defined by Crist and Gadacz as the development of hernia at the cannula insertion site, is a rare complication of the laparoscopic surgery with a reported incidence of 1% to 2% [1,2]. Several factors predisposing the development of the hernia have been proposed related to both technique and host such as trocar size, closure of the fascial defect, the entry technique, stretching the port site and obesity [3-7]. Here, we describe a case of bowel herniation through a 10-mm lower abdomen-located trocar site incision.

Case Report

A 44-year-old, gravida 4, para 4 woman presented with abnormal uterine bleeding to our gynecology polyclinic and was evaluated by endometrial biopsy, transvaginal ultrasonography and laboratory tests including hemoglobin, thyroid stimulating hormone level and coagulation parameters. Pathologic examination revealed benign intramural fibroid measuring 8x10 cm at the corpus of uterus. She had anemia with Hb: 9 g/dL and other laboratory tests were in normal ranges. There was nothing remarkable in terms of her medical/surgical and

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family history. After preoperative evaluation, she underwent an uncomplicated laparoscopic hysterectomy using two 10-mm ports, one at the infraumbilical and the other at the right lower quadrant; two 5-mm ports, one at the suprapubic region and the other at the left lower quadrant. The patient was discharged on the third postoperative day after an uneventful course.

Three days later, she presented with pain and swelling at the right lower quadrant trocar site and difficulty with defecation. On physical examination, distention and tenderness were detected at the right lower quadrant but there was no rebound. Ultrasonography and computerized tomography demonstrated small bowel hernia at the right port site. Diagnostic laparoscopy was performed and small bowel herniated through right 10-mm trocar site was detected [Fig.1]. The skin and fascial incisions were extended and hernia was reduced. Fortunately, viable small bowel was identified so no further intervention was required. The abdominal layers were closed properly including the peritoneum and the patient was discharged on the third postoperative day.

Discussion

Trocar-site herniation is one of the most serious complications of laparoscopic surgery. The onset of the symptoms can be early or late and the hernia and herniation most commonly presents with distended and painful abdomen with vomiting and nausea [2]. It is crucial to consider hernia through trocar site and to perform further intervention when suspected clinical findings are detected.

Despite the debate on the best preventive method, many interventions have been suggested [4,8,9]. Closure of fascial defects created by 10-mm or larger trocar sites was recommended however, cases of port-site hernia occurred with incisions as small as 3 mm were reported. Therefore, closing

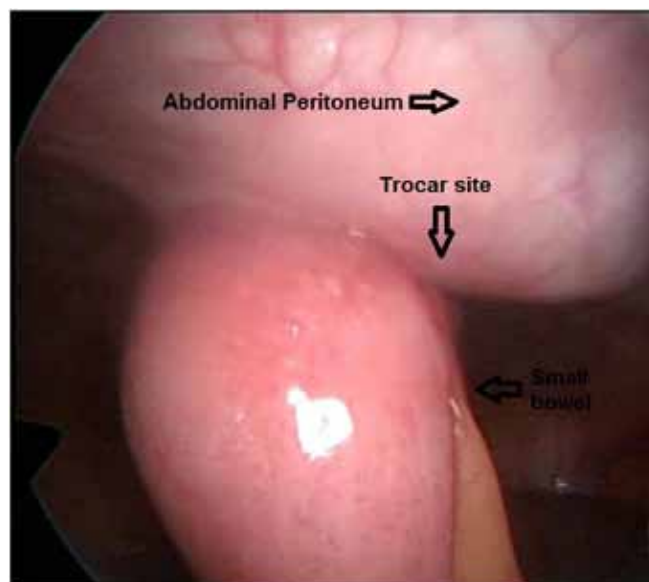


Fig.1: Herniated small bowel through the trocar-site.

all fascial defects seem to be beneficial in order to prevent hernia formation [4,10-12]. But, the answer to the question how to properly close a fascial defect, is still unclear. Some studies proposed to close all layers including the peritoneum whereas others recommended the use of a surgical device such as mesh [13,14]. The entry technique has been also investigated in order to find the safest method to decrease trocar-site hernia incidence but it was mentioned to have little influence [15]. In this case, we performed closed direct entry and hernia formation occurred at the 10-mm trocar site although we closed properly all layers of the defect.

The location of the trocars and the role of stretching the port-site for retrieval have been other controversial points among the authors. While some authors indicated that umbilical sites were the most common for hernias, others thought that the incidence of trocar-site hernia in the lateral region was no less than that in the midline [2,4,9]. Some studies also mentioned that stretching the trocar-

site to retrieve specimens might be involved in the hernia formation [3]. In the present case, one of the 10-mm trocars was placed in the lower lateral region of the abdomen and small bowel herniated through the port-site.

Inserting trocar particularly larger than 5 mm at the lower quadrants may increase the risk of small bowel herniation even if closing all layers of the abdominal wall. Therefore, it seems to be reasonable to avoid using lower quadrant sites for larger trocars and close all trocar sites properly in order to prevent the trocar-site hernias which can cause serious morbidity and mortality so that need prompt diagnosis and intervention.

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