

Case Report

Five mm trocar site hernia of jejunum after total laparoscopic hysterectomy

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Abstract

Trocar site hernia is an uncommon complication of laparoscopic surgery. We present a case of 48-year-old year old patient who underwent total laparoscopic hysterectomy and developed ileus on post-operative fifth day because of small bowel obstruction in 5 mm trocar site and required laparotomy. Trocar site hernia is rarely reported on 5 mm sites. There are various risk factors suggested for herniation and proper facial closure after complete deflation of pneumoperitoneum is recommended.

Key words:

Hernia, jejunum, laparoscopy, trocar

Introduction

Laparoscopy has brought a prominent impact on the already numerous techniques of surgery and complications came up with widespread use of this technique. Since laparoscopy preserves the patient from morbidities of open abdominal surgery and provides quicker return to normal activities with less postoperative pain and complications, it is also associated with serious uncommon complications like injuries of great vessels and intraabdominal organs, trocar dependent problems like infection, bleeding or herniation [1]. Incidence of major complications during laparoscopic procedures is reported 0.14% [2]. Among

these complications, trocar site hernia, which can end up with serious morbidities is a rare problem with a reported incidence of 0.47% [3]. In this article, we report a case of port site hernia that occurred on the 5 mm port site.

Case presentation

Forty eight-years-old gravidity 8 parity 4 female patient attended to our outpatient clinic with symptoms of menometrorrhagia. Hysteroscopy revealed compression of 3 cm myoma in endometrial cavity and ultrasonography confirmed an intramural myoma 3.5 cm in diameter. Her body mass index (BMI) was 26.2 kg/m². Total laparoscopic hysterectomy was performed using 11 mm infraumbilical and two 5 mm bladed side trocars (Versaport™ V², Covidien, Massachusetts, USA) by using uterine manipulator (VCare®, ConMed Endosurgery, New York, USA). Vaginal cuff was closed through vaginal route using interlocking 0 polyglactin 910 sutures. The fascia of infraumbilical 11 mm trocar hole was closed with a 1 polyglactin and skin incision of 5 mm trocars was closed with 2-0 polyglactin sutures. Postopera-

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tive first two days was uneventful. On the third day, the patient developed diarrhea, nausea and vomiting. Microscopic evaluation of stool did not reveal any pathological findings. On postoperative day 5, the symptoms of the patient were consistent with ileus. A dilated intestinal segment 39 mm in diameter with thickened wall and minimal movements was found at ultrasonographic evaluation. An abdominal X-ray graphy also showed the dilated bowels (Figure 1). Explorative laparotomy was performed with a lower midline incision; the intestine was diffusely widened and the hyperemic area on mid-jejunum was seen as incarcerated part of the jejunum on 5 mm right trocar site (Figure 2). Intestines were decompressed and oral intake was stopped postoperatively. Intravenous ceftriaxone 1 gr 2x1 and metronidazole 500 mg 2x1 regimen was started. After uneventful 4 days in postoperative period, the patient was discharged. Approval was obtained from the institutional review board of the hospital.

Figure 1.

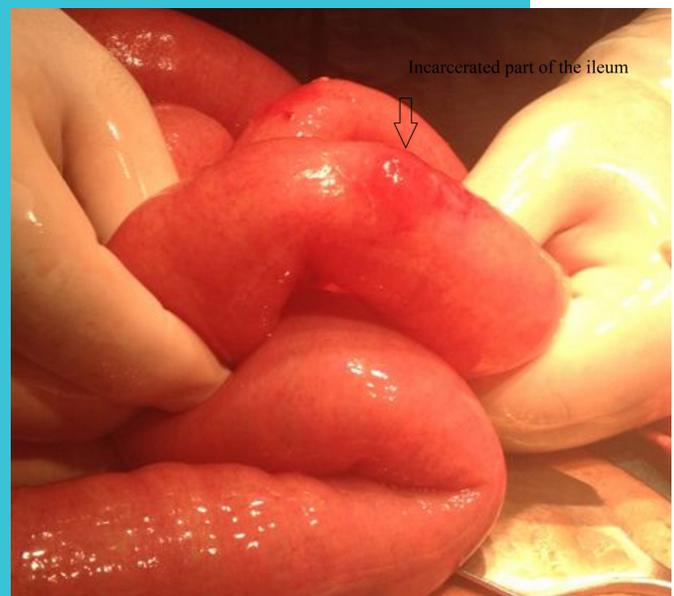


Abdominal X-ray graphy shows the dilate bowels

Discussion

Trocar site hernia is a type of incisional hernia which occurs after laparoscopic procedures [4]. Omentum, small bowel, caecum, ascending colon and vermiform appendix may herniate from the port site [5]. Symptoms of trocar site hernia are usually abdominal pain, swelling, and symptoms related to intestinal obstruction [4].

Figure 2.



The view of the hyperemic area on mid-jejunum

This type of hernia is classified into three types by Tanouchi to plan appropriate management [6]: early onset type occurs in early stages after surgery and presents with small bowel obstruction, late onset type occurs several months after surgery and presents with abdominal swelling instead of bowel obstruction and special type with protrusion of intestines or omentum. Our case matched with early onset type with both timing and clinical presentation. Many risk factors have been proposed for trocar site hernia. Size of trocar, insertion technique of trocars, location of trocar, closure of facial defects, extension of the port site for extraction of intra-abdominal matters, intra-abdominal pressure because of the compressed air and muscle con-

tractions, and patient dependent factors like obesity, wound infection and co-morbid diseases [1, 4, 6, 7]. Port-site incision stretching is very important during surgery; it can occur while performing robotic surgery due to uncontrolled power to the incision by the robotic arms [8] or suturing the vaginal cuff using intracorporeal nuds due to the multiple entrance of the trocars into the abdomen [9]. In our case, we closed the vaginal cuff through vaginal route and did not detect any excessive maneuver on the trocars. Trocar size of 10 mm or larger is suggested to have higher risk for herniation while herniation from 5 mm trocars like in our case has been reported with lesser incidence [6, 10]. Closure of facial defects especially ≥ 10 mm is recommended [1] but despite facial closure, incisional hernias after gynecologic laparoscopy are reported with 17.9% incidence [10]. Insertion technique was evaluated by Mayol *et al.* [11] and closed laparoscopy technique with Verres needle as we have used in our patient was advocated to increase the risk for herniation. Trocar site hernias are also associated with the configuration of the trocar [12]. The bladeless trocars should be used to prevent trocar site hernias; because it is thought that radially expanding technology which is used in bladeless technology allows the bladeless trocars to yield smaller fascial defects. In our case, we used bladed trocar; this may be a factor that increases the risk of trocar site hernia. Obesity was a controversial risk factor in reports, our patient's BMI was 26.2 kg/m² and she did not have any co-morbid risk factors that could predispose her-

niation. Our case also did not carry the risk factors like wound extension for retrieval or infection. A computed tomography (CT) scan is useful in diagnosis [13]; nonetheless, CT scan was not performed in our patient because ultrasonography and X-Ray scan was adequate for suspicion of ileus and bowel obstruction when evaluated with patient's clinic. Removal of all ports under careful vision after complete deflation of pneumoperitoneum and proper closure of facial defects is recommended to prevent port site herniation [1]. The incidence of laparoscopy related complications is going to increase as the widespread use of this procedure. Trocar site hernia is one of the serious complications of laparoscopy with its morbidities and requirement of surgical intervention, which reverses all the advantages of closed abdominal surgery. Facial closure is important even in 5 mm trocar sites to avoid this rare case.

Conflict of Interest

Authors declare no conflict of interest

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