

Port-site Hernia: An Individualized Approach to Port Closure

To the Editor,

The incidence of port-site hernias (PSHs) has increased, with laparoscopy becoming the standard of care. Tonouchi *et al.* first reported port-site hernia as a complication following gynecological laparoscopy in 1968.^[1] Swank *et al.* published a systematic review of laparoscopic procedures in 2016 and stated that the overall prevalence of trocar-site hernia is between 0% and 5.2%.^[2,3] We present two cases of port-site hernia through the lateral 5-mm port after a laparoscopic surgery.

CASE A

A 36-year-old woman underwent laparoscopic myomectomy for multiple uterine fibroids. A primary 10-mm supra-umbilical port along with three 5-mm lateral ports was used to perform the surgery. The left lateral 5-mm port was later converted to a 15-mm port for specimen retrieval. The surgery lasted for 302 min and sixty fibroids were removed. A full-thickness closure of the left lateral 15mm port was done using polyglactin suture.

On day 2 of surgery, the patient developed nausea and vomiting not relieved with antiemetics and prokinetics. Computed tomography scan revealed a right para-umbilical full-thickness abdominal defect measuring 1.7 cm × 1.0 cm containing a short segment of the small bowel [Figure 1]. Laparoscopic evaluation showed a 4–5-cm ileal loop herniating through the right lateral 5-mm port [Figure 2]. The bowel loop was freed from the peritoneal defect and the hernia site was repaired.

As the primary surgery was prolonged and the uterus was being manipulated from the lateral ports, fascial necrosis

could have occurred and led to widening of the incision and subsequent herniation of the small bowel.

CASE B

While performing a total laparoscopic hysterectomy for a 42-year-old woman, it was noticed that a small part of the plastic cannula in the left lateral port had broken and was lodged in the subfascial tissue. The fascial incision was extended to remove the broken piece and not sutured subsequently. Three weeks later, the patient presented with complaints of pain on the left lower port site. Ultrasound was suggestive of a left lateral abdominal wall hernia of small bowel loops and mesentery in between the subcutaneous fat and muscle layers. Laparoscopic evaluation showed a 5-cm peritoneal defect with ileal loops surrounded by inflammation and dense adhesions [Figure 3].

Any extension of the incision during the primary surgery should have warranted a port closure and hence we acknowledge the role of an iatrogenic PSH in this case.

DISCUSSION

Various case reports and case series in literature currently suggest the routine closure of fascial incisions ≥ 10 mm.^[4] At our center, we routinely use a 10-mm supra-umbilical primary port and three 5-mm lateral accessory ports for major gynecological laparoscopies. The left lateral port is extended up to 15 mm for specimen retrieval, if required, followed by a full-thickness closure using a delayed absorbable suture. Since 2002, we have performed around 6837 gynecological laparoscopic procedures with only two patients developing PSH (0.03%) – mean follow-up of 12 months. In our experience, not only fascial but also full-thickness closure of any incision ≥ 10 mm should be done as it reduces the risk of PSH.



Figure 1: Computed tomography image of the right para-umbilical trocar-site hernia with short segment of the ileum



Figure 2: Small bowel herniating through the 5-mm right lateral port

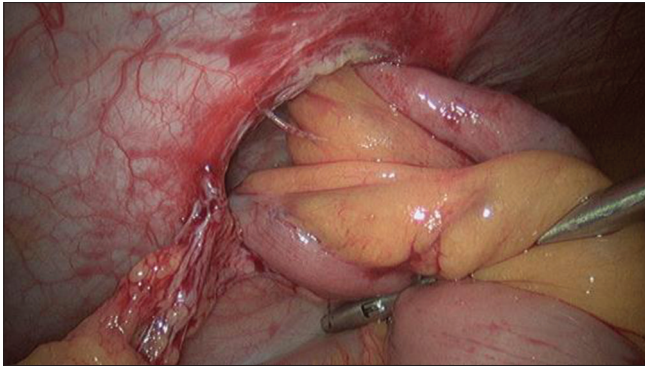


Figure 3: Bowel loops herniating through and adhered to peritoneal defect

Age >60 years, high body mass index, associated comorbidities, and preexisting supra-/para-umbilical hernias can increase the likelihood of development of PSH.^[2,5] Increased surgery time, prolonged manipulation, and stretching of ports to retrieve specimen can lead to fascial necrosis and increase the chances of PSH in incisions <10 mm.^[5] As PSH is a preventable complication, an individual risk assessment and decision for port closure must be made at the end of each laparoscopy procedure, irrespective of the size and site of ports at the onset of surgery.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have

Article History:
 Received 2 April 2018
 Received in revised form 16 May 2018
 Accepted 12 June 2018
 Available online 26 September 2018

Access this article online	
Quick Response Code: 	Website: www.e-gmit.com DOI: 10.4103/GMIT.GMIT_29_18

given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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How to cite this article: Chawla LJ, Rao GA, Raje SR, Arvind S. Port-site hernia: An individualized approach to port closure. *Gynecol Minim Invasive Ther* 2018;7:181-2.
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