

Case Report

Acute Presentation of Port Site Hernia Following Robot-Assisted Hysterectomy: A Case Report and Review of the Literature

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ABSTRACT

Port site hernia (PSH) has been reported following both laparoscopic and robotic surgery. Subsequent surgical intervention increases postoperative morbidity. We report the case of a PSH through the 8-mm trocar following robot-assisted hysterectomy in a 49-year-old female patient, along with a review of the literature. The case was performed with the standard protocol; however, increased intraoperative bleeding was encountered from right uterine artery and vein. Discharged at 48 h, she presented in emergency on the fourth postoperative day with acute intestinal obstruction. Computed tomography scan showed herniation of the jejunal loop through the 8-mm left-sided port. She underwent resection and anastomosis of the necrosed jejunal loop. We review the literature for PSH following robotic gynecological surgeries. Although rare, PSH requires surgical intervention, increasing the postoperative morbidity. Need for fascial closure of 8 mm ports should be considered. High index of suspicion and early recognition can avoid resection of the bowel loop.

KEYWORDS: 8-mm trocar, complication, gynecology, hysterectomy, port site hernia, robotic surgery

INTRODUCTION

Port site hernia (PSH) is a rare complication after minimal access surgery. PSH may need emergency surgery for bowel obstruction or may present as asymptomatic hernia. The exact prevalence of PSH is not known. We describe a case of PSH from the 8-mm trocar site following robotic hysterectomy and review the literature specific to 8-mm PSH following robotic gynecological surgeries.

CASE REPORT

A 49-year-old female reported with heavy menstrual bleeding and dysmenorrhea for 6 months. Her body mass index was 25 kg/m². She had two cesarean sections and was hypertensive. On pelvic examination, the uterus was 10 weeks size, mobile, and nontender with hemoglobin 9.6 g%. The diagnosis of adenomyosis with fundal fibroid (4 cm × 5 cm FIGO-2) was made. She underwent a robot-assisted laparoscopic hysterectomy with bilateral salpingectomy using DaVinci Si system. The port placement is shown in Figure 1. Hot shears (30 watts) and fenestrated

bipolar (40 W) were used in arm 1 and 2, respectively. Vault was sutured with V-Loc (180 cm; GS-21 Taper cut needle) using mega needle driver (arm 1) and fenestrated bipolar (arm 2). Excessive bleeding was encountered from the right uterine artery and vein which was controlled by bipolar coagulation. She received one unit of blood transfusion. A drain was inserted through the left 8-mm robotic port. The total operative and console time were 130 min and 100 min, respectively. Started on liquids at 4 h, soft diet at 6 h and catheter removed at 24 h. With the resumption of bowel function, the drain was removed, and the patient was discharged 48 h postsurgery. Subsequently reported to the emergency on the 4th postoperative day with severe abdominal pain and vomiting. On examination, abdominal distension, tenderness in the left iliac fossa, and absent bowel sounds were noted. A diagnosis of a dynamic

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ileus was made on erect abdominal X-ray [Figure 2]. She was admitted and managed conservatively. Contrast-enhanced computed tomography scan [Figure 3] after 24 h confirmed herniated distal jejunal loop and its mesentery in the left parietal wall at the site of the 8-mm robotic port. This was the same port that was used for intraperitoneal drain. A diagnostic laparoscopy confirmed of herniated necrosed jejunal loop, a midline sub-umbilical incision of 4 cm was made to complete resection and anastomosis [Figure 4]. The recovery was uneventful. Histopathology confirmed transmural necrosis and hemorrhage consistent with gangrenous bowel. At 2 years' follow-up, the patient is asymptomatic.

DISCUSSION

PSH is an uncommon complication after robotic surgery

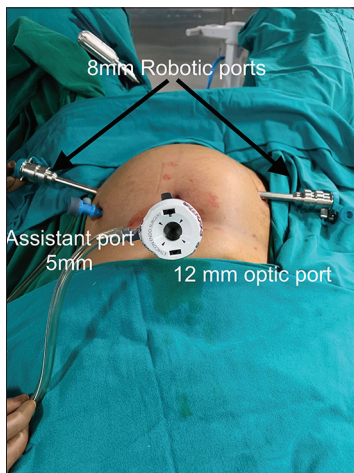


Figure 1: Location of robotic ports (8 mm) on either side of the abdomen and 5 mm assistant port on the left side, the primary optic port at umbilicus is 12 mm

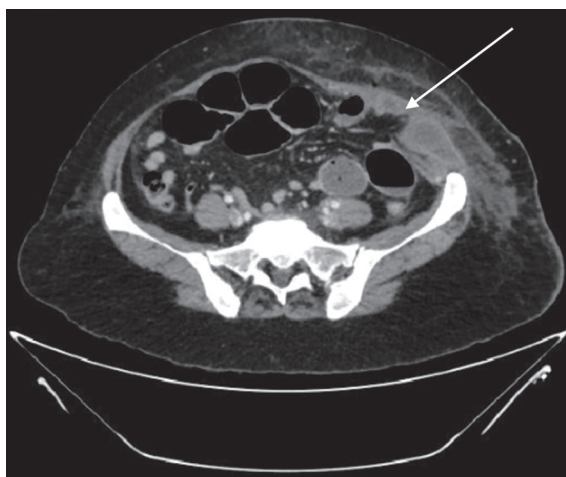


Figure 3: Distal jejunal loop and its mesentery were seen in the left parietal wall and the transverse abdominis muscle into the muscular plane in the left anterolateral infraumbilical abdominal wall the computed tomography scan evaluation

and may need surgical intervention. Damani *et al.* discussed PSH and reported its incidence as 0.13% in a large series of 11,566 patients (multispecialty group), of which 73% were reported from 8-mm ports.^[1] In addition, 11 such case reports of acute PSH from 8-mm port are also reported in the literature,^[2-12] and only three of these cases were after a gynecological robotic surgery (two benign and one oncology). Our case developed acute PSH at the left 8-mm port following robotic hysterectomy (benign). Damani *et al.* reported eight cases of PSH after robotic gynecological surgery but did not differentiate between 8 mm and 12 mm ports.^[1]

Our case presented on the 4th day following robotic hysterectomy and underwent resection anastomosis of jejunal loop. Most cases of acute PSH through 8 mm reported in the literature did not need resection and anastomosis except one reported by Micelli *et al.*^[11] Similar to the case reported by Micelli *et al.*, our case too had normal bowel function in the postoperative period hence discharged only to return to

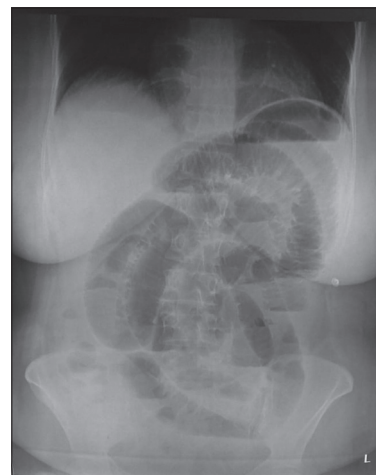


Figure 2: X-ray erect posture showing gas-dilated gas-filled small bowel loops



Figure 4: Gangrenous jejunal loop on exploration

emergency with the acute abdomen. The PSH from lateral ports can result in a “Spigelian type” of hernia. Such hernias are difficult to diagnose on physical examination and a high threshold of suspicion is needed. An early diagnosis of hernia of the bowel loop into the secondary trocar defect can avoid the need for resection and anastomosis. Initial conservative management and diagnostic delay may have resulted in necrosis and the need for resection in our case.

We suspect that the drain placement from the same port that resulted in PSH was one of the contributing factors. The loop of jejunum could have been pulled when the drain was removed resulting in PSH. None of the reported cases of acute PSH after gynecological surgery had intra-peritoneal drain.^[1-3,11] However, acute PSH was seen following nongynecological robotic surgeries from the same port where drain was placed in three cases reports.^[4,6,10] This possibility was also discussed by Damani *et al.* as they found 36% patients in their series developed PSH at the drain site.^[1]

Fascial closure of the 8 mm port was not done in our case. There is no universal recommendation to do so. As per Damani *et al.*, 2 out of 15 cases developed PSH in spite of fascial closure.^[1] In a review of 842 cases of robotic gynecological surgeries, 54.3% of cases had fascial closure while the rest did not. They did not report PSH in either group.^[13]

Repeated use of fenestrated bipolar in the arm 2 (inserted in the left 8 mm port) to reach the right isthmus area to control the intra-operative bleeding from uterine artery and vein could have contributed to the development of PSH in our case. The improper placement of remote center in arm 2 resulting in wider range of motion at the fulcrum (abdominal wall level) could have extended the 8 mm port. The female gender is considered to be a risk factor. Seventy-seven percent of patients (across all specialties) with PSH in Damani *et al.* were female.^[1] Poor abdominal tone due to previous childbirth added by poor healing due to low hemoglobin at the time of surgery could be a contributing factor.

CONCLUSION

PSH, although rare, has significant postoperative morbidity as it needs a subsequent surgical intervention. Further, follow-up of robotic cases should be done to assess the need for universal fascial closure of 8-mm ports. Caution should be exercised when intraperitoneal drain is placed and suspicion of PSH kept in mind in women presenting with acute abdomen in the postoperative period.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the

patient(s) has/have 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.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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