

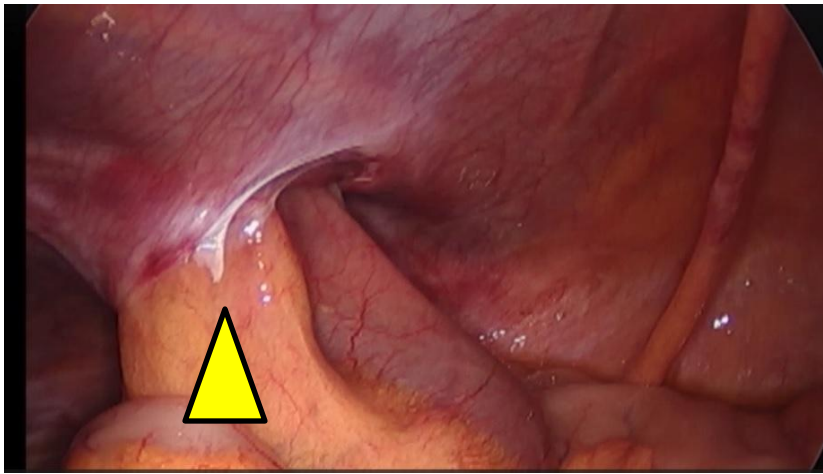
Port Site Hernia: Rare but may be dangerous

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The patient

He is a 64 year old male, who presented three days after laparoscopic appendectomy. He was complaining of abdominal colic, distension vomiting and absolute constipation. Abdominal examination revealed generalized distension with tenderness in the left lower abdomen, at the site of the port incision. Plain erect abdominal radiography revealed multiple gas fluid levels. Abdominal ultrasound showed distended bowel loops with minimal pelvic fluid. The diagnosis of bowel obstruction was obvious, so a trial of conservative treatment that included nasogastric aspiration and parenteral fluid therapy was started. There was no improvement and the patient pain increased, so diagnostic laparoscopy was performed. It revealed a left lower abdomen port site bowel incarceration. The bowel was released and was viable. The port was closed with suture closing device. The previous appendectomy operative site was inspected and was clean. The patient responded well and was discharged on postoperative day 1.



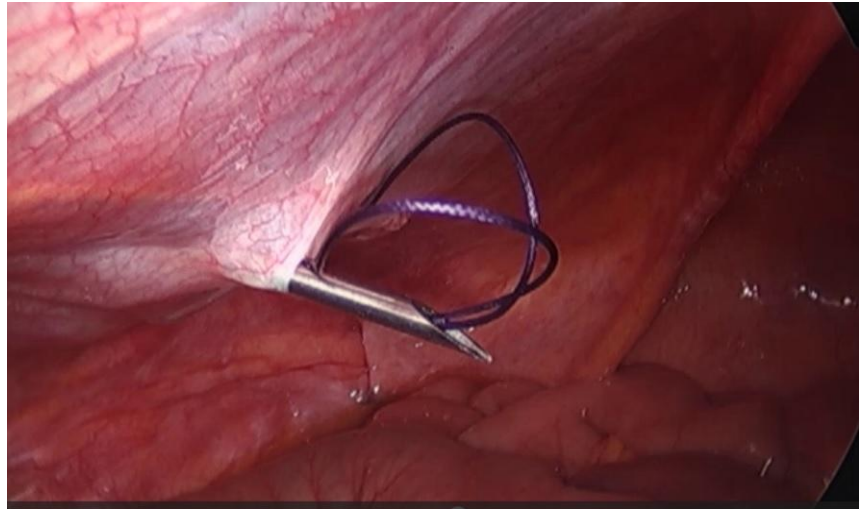
The Hernia and Defect



Bowel mobilized & reduced



Healthy Bowel



Port Closure

Discussion

Port Site Hernia is an incisional hernia occurring at the trocar insertion sites after different types of laparoscopic surgeries. Each trocar site is a potential incisional hernia site. A number of factors increase the risk of port site hernia at any given trocar site. It is a potentially serious complication due to its high morbidity as the small size of the defect can incarcerate or strangulate the contents. The incidence of port site hernia after laparoscopic gastrointestinal surgeries averaged 0.74%. Laparoscopic colorectal surgeries had the highest incidence of 1.47% compared to laparoscopic bariatric surgeries which had a low incidence (0.57%).

Factors affecting the occurrence of port site hernia include the site of the port; the type of trocar used and the trocar size. The larger the trocar size, the higher is the chance of development of port site hernia. Defects placed in the midline near umbilicus are a high risk factor for herniation. On the contrary, ports in the lateral abdominal wall are less in contact with the small bowel and passes through overlapping anterior and posterior sheaths with muscle layers in between. Fascial closure should be done in all defects of size greater than 5 mm in adults and all defects regardless of size in children. Some trials recommend gradual release of CO₂ from the abdominal cavity as bowel can be drawn into the defect by sudden decompression of intra-abdominal pressure (chimney effect).

Conclusion

Although Port Site Hernia is an uncommon complication after laparoscopic surgery, yet it can be dangerous. Several factors contribute to its occurrence, including trocar site, size, type and closure of the port site at conclusion of the procedure. To reduce its incidence, attention to these factors is necessary and ports should be routinely closed especially larger ones.