Identifying Risk Factors for Robotic Port Site Hernias – A Case Series

Ripley-Hager, C., Crosby, P., Alsaad, R., Das, A., Adrales, G.

[1] Division of Minimally Invasive Surgery, Department of Surgery, Johns Hopkins University School of Medicine, Baltimore, MD, USA;

Introduction

Port site hernias are an uncommon but highly morbid potential complication of laparoscopic and robotic surgery. Although previous studies have attempted to establish guidelines for port site closure, there remains considerable debate - particularly involving the closure of 8mm robotic port sites. Here we present three cases of robotic port-site herniation and discuss potential risk factors with the goal of guiding further research to assist with surgical decision making.

Case 1

We report on a 62-year-old female who underwent a robotic ventral incisional hernia repair via a standard left lateral approach using 8mm robotic ports. Her port sites were not closed at the conclusion of the operation. She presented to the emergency department post-op day 4 with an acute port-site hernia at the left lower abdominal port site containing small bowel. The bowel was viable and the hernia was repaired via an open approach with biologic mesh reinforcement with no recurrence to date.

Case 2

We report on a 65-year-old female with a history of a Robotic Whipple several years prior who presented with port site herniation at the umbilical (12mm) and right lower quadrant port sites (8mm). At her index operation the 12mm port was closed primarily, the 8mm ports were not closed. The right lower quadrant port site hernia contained a normal appendix. She underwent an uncomplicated robotic repair of both port site hernias as well as an appendectomy with no recurrence to date.



Figure 1 – Case 2
Robotic port site hernias. RLQ hernia containing normal appendix.

Case 3

We present on a 53-year-old female who underwent a robotic ventral incisional hernia repair via a standard right lateral approach using 8mm robotic ports as well as a 12mm accessory port in the left lateral abdomen. The 12mm port was closed at the conclusion of the operation, the 8mm ports were not. On post-operative day 2 she developed nausea and vomiting and was found to have an acute port site hernia at the right subcostal 8mm robotic port site. The bowel was viable and the hernia was repaired laparoscopically with subsequent closure of all 8mm port sites with no recurrence to date.

Discussion

Two of our three cases presented with acute port-site herniation within the first postoperative week after robotic hernia repair. Two of our three cases presented with port site herniation at an 8mm ASIS port site. Based on literature review, the lower quadrant, ASIS port-site is a common location for port site herniation. This may be due to either increased torque and manipulation from a wider range of motion at this port site or due to this location being a relative point of fixation. Further research into the torque applied to robotic port sites and the resulting size of the facial defect after fascial splitting would be helpful in guiding surgeons as to the appropriate management of these 8mm port sites.