Single Incision Laparoscopic Appendectomy and Meckel's Diverticulectomy - A Unique Case Report and Review of The Literature

Joseph Sciacca DO, David Palange DO, Michael Goldberg MD

ChristianaCare Health System, Newark DE, USA

Introduction

- Utilization of Single Incision Laparoscopic Surgery (SILS) for appendectomy and Meckel's diverticulectomy in a patient with appendicitis and a pelvic mass concerning for malignancy.
- Highlight the benefits of SILS as a novel surgical approach in managing a Meckel's diverticulum.

Case presentation

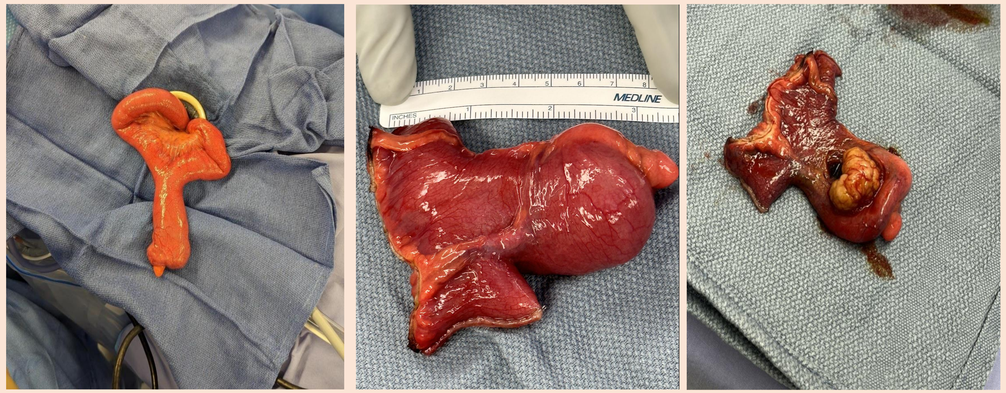
- 22-year-old transgender male presented to the hospital with nausea, vomiting, diarrhea and worsening lower abdominal pain.
- Computed tomography (CT) revealed acute appendicitis, along with a concerning 3x2cm enhancing mass near the ileum, located within the pelvis.
- SIL appendectomy with exploration of the mass discovered to be a 6cm ileal diverticulum containing a firm nodule which was segmentally resected.

Methods

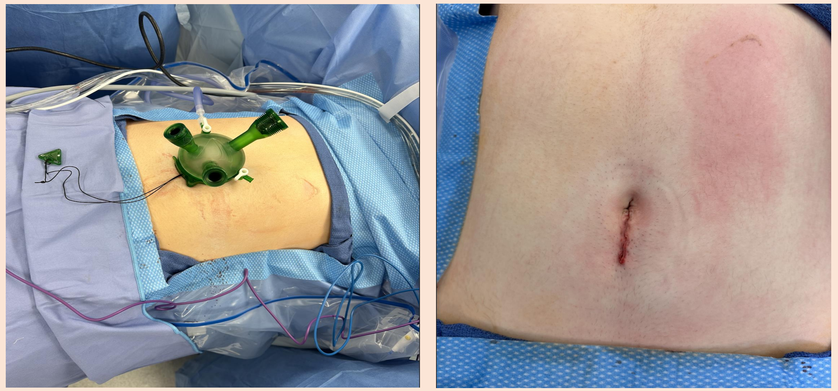
- 3.5cm intra/infraumbilical incision
- Gel port accommodated 5mm (2) and 12mm (1) trocars, offers wound protection
- Laparoscopic stapler for appendectomy
- GIA staplers used for bowel resection and side-to-side anastomosis
- Layered closure of incision



CT demonstrating acute appendicitis with dilation to 9.7mm (picture left) and a 2.9x1.95cm mass within the pelvis (picture right)



Meckel Diverticulum and associated ileum brought through the Gel port (picture left). Excised specimen (picture middle) with exposure of diverticular mass (picture right)



Gel port with 12mm and 5mm trocars (picture left) and cosmetic closure of infraumbilical incision (picture right)

Discussion

- SILS offers the benefits of reduced peritoneal tissue trauma, faster recovery and enhanced cosmesis.
- Current literature is sparse regarding use of SILS for Meckel's resection, especially in the adult population.
- Via SILS approach, we successfully performed an appendectomy, with segmental resection of the ileal mass, identified as Meckel's diverticulum.
- Successful use of SILS technique which can be extrapolated to various procedures and focus on more minimally invasive approaches that are traditionally performed through conventional laparoscopy.

Conclusion

- Unique SILS appendectomy and small bowel resection in an adult with appendicitis and a mass within a pelvic Meckel's diverticulum.
- SILS allowed for an appendectomy, exploration of bowel, mass identification, and extracorporeal segmental resection.
- Eliminates the need for upsizing trocars, as would be necessary in conventional laparoscopic treatment of Meckel's.
- The successful outcome highlights efficiency for both surgeries, cosmetics and furthering the minimally invasive literature.

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