Minimally Invasive Robotic Appendectomy for Resection of a Large Appendiceal Mucinous Neoplasm: Case Report and Review of the Literature

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Introduction

General surgeons commonly perform the procedure of appendectomy, but rarely encounter a malignancy of the appendix. Mucoceles, including appendiceal mucinous neoplasms, are found in just 0.2-0.3% of appendiceal specimens. In the past, many advocated against a minimally invasive approach for removal of appendiceal mucinous neoplasms due to risk of spillage resulting in pseudomyxoma peritonei. Reports of minimally invasive resections for low-grade appendiceal neoplasms are limited.

We present the case of a 66 year old male with a large, low-grade appendiceal mucinous neoplasm (LAMN) removed via a minimally invasive robotic approach.

Patient Presentation

The patient initially presented to his urologist with gross hematuria and a calcified appendiceal lesion concerning for a mucocele was identified incidentally on CT urogram.

Related Literature

Reports of minimally invasive resections of appendiceal neoplasms are limited. There are even fewer reports of minimally invasive approaches for appendiceal neoplasms with large dimensions like the one removed in this case.

References

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While there are reports of laparoscopic removal, there are few published reports of robotic mucocele resection.



FIGURE 1.
Coronal CT imaging of the abdomen demonstrating a calcified mass in the right lower quadrant

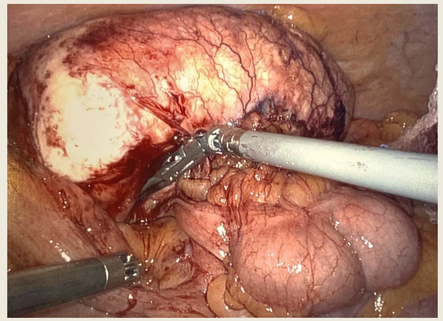


FIGURE 2.
Intra-operative robotic view of the appendiceal mucocele. The appendiceal stump is uninvolved.

FIGURE 3.
The resected specimen pictured below was sent for pathology





FIGURE 4. *Axial CT imaging of the abdomen demonstrating a calcified mass in the right lower quadrant*

Surgical Technique

The patient underwent robotic assisted appendiceal mass excision:

1. Hassan entry into the abdomen at the umbilicus
2. Placement of a RUQ 8mm trocar and LLQ 8mm trocar under direct visualization
3. Docking of the robot and visualization of the abdomen with no evidence of pseudomyxoma peritonei
4. Utilization of a ray-tec to lift the mass. Takedown of attachments with vessel sealer
5. Visualization of a normal appendiceal stump
6. Transection of the base of the appendix with an endoscopic stapler
7. Retrieval of the specimen with a kidney bag and extension of the midline incision for extraction. The mass was not disrupted and was entirely intact without spillage.

Pathology

The low-grade mucinous neoplasm (pTis) measured 13x8cm. There was no lymphovascular invasion and the surgical margins were negative.

Post-Operative Management

He was discharged home the same day as sugery in good condition. His post-operative course was without complication. Since his disease was confined to the appendix with negative margins, no further workup is needed. If not confined, patient's require further post-operative monitoring with CT imaging and tumor markers.

Result

This case is an example of safe removal of a LAMN utilizing minimally invasive surgical technique, which resulted in a decreased length of stay and minimized complications otherwise associated with traditional laparotomy. **When utilizing a minimally invasive approach, you should avoid excessive grasping of the appendix to prevent any rupture and the specimen should be removed with a bag**. The patient was discharged from the hospital on the same day as surgery. He recovered well with no surgical complications.