

Incidental Detection of a Ruptured Low-Grade Appendiceal Mucinous Neoplasm Following Gynecologic Specimen Evaluation



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BACKGROUND

Low-Grade Appendiceal Mucinous Neoplasm (LAMN):

- Mucin-producing epithelial tumour of the appendix^{1,2}
- Usually discovered incidentally¹
- Early recognition and management are essential³
- Rupture leads to intraperitoneal dissemination of mucin and mucus-producing neoplastic cells⁴
- Can progress to pseudomyxoma peritonei (PMP)^{1,5}

CLINICAL HISTORY

- Patient underwent a total hysterectomy with bilateral salpingo-oophorectomy
- Primary pathology - Multiple white whorled masses
- Secondary pathology - Extracellular mucinous deposits composed of low-grade epithelial cells on right sided uterine serosal surface
 - Intact cervical nabothian cysts identified and ruled out as the source of the mucin
 - No other correlates identified
 - Concern raised for an appendiceal mucinous neoplasm
 - Subsequent CT scan demonstrated a dilated appendix with features suspicious for rupture
 - Patient underwent right colectomy (Figure 1) with cytoreductive surgery



Figure 1. Anterior view of right colectomy specimen.

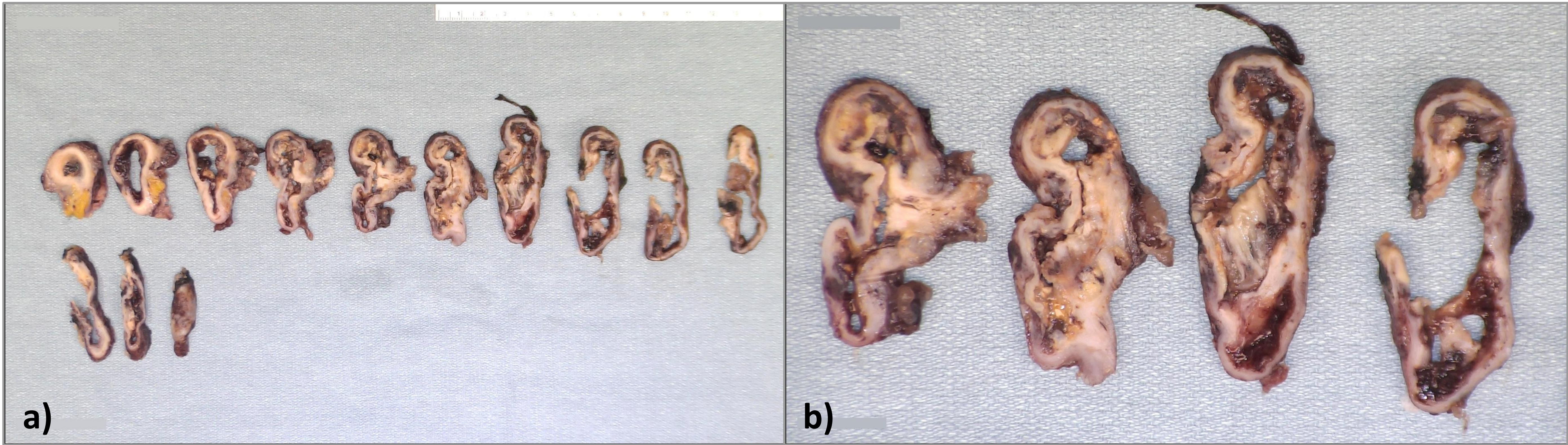


Figure 2. a) Serial sections of appendix from proximal to distal. b) Close-up of serial sections of appendix highlighting small defect (left slice; size not measured) and large defect (right slice; 3.0 x 1.7 cm; located 2.0 cm from the distal end).

RESULTS

Gross findings:

- Specimens received:
 - Right colectomy, gallbladder, peritoneal and mesenteric nodules, and multiple peritoneal implants involving the falciform ligament, pelvic peritoneum, liver capsule, and diaphragmatic surface
- Appendix (Figure 2):
 - Dilated (7.5 x 2.0-4.7 cm) and cystic
 - Two mural defects
 - Hemorrhagic to opaque mucinous deposits
- Other specimens:
 - Hemorrhagic to opaque mucinous deposits

Diagnosis:

- LAMN
- Mucinous Carcinoma Peritonei Low Grade (MCP-L)
- pTNM AJCC staging:

T4a	N0	M1b
Appendiceal serosal involvement	No regional lymph node metastasis	Intraperitoneal metastasis

- Histologic grade - G1 (well differentiated)

DISCUSSION

Grossing considerations:

- Document the location, appearance, and extent of any mucinous material^{4,5}
- Consider appendiceal origin when extracellular mucin is identified in gynecologic specimens
- In suspected cases of LAMN, careful gross assessment and sampling are particularly important as serosal mucin involvement increases the risk of recurrence and upstages the tumour to pT4^{1,6}

Importance of pathologists' assistant:

- Critical role in the diagnostic pathway through careful gross examination and recognition of unexpected, clinically asymptomatic pathology that can directly impact patient care

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