The Royal College of Radiologists
RADIOLOGY HONG KONG 2025
11TH JOINT SCIENTIFIC MEETING OF RCR & HKCR
AND
33RD ANNUAL SCIENTIFIC MEETING OF HKCR

More Than Meets the Appendix: Diagnostic Clues From A Mucocele Case Series

Wesley Choi [1], Akash Ganguly [2], Cheng Li [3] and Chinedum Anosike [2]
[1]Department of Emergency Medicine, [2]Department of Radiology and [3]Department of Histopathology

NHS
Warrington and Halton Teaching Hospitals
NHS Foundation Trust

Objectives

Appendiceal mucoceles are rare. Resulting from luminal obstruction and appendix dilation, it often presents with non-specific abdominal symptoms of younger patients. This case series aims to highlight the varied clinical presentations, imaging characteristics and histopathological outcomes of appendiceal mucoceles, with an emphasis on key diagnostic considerations.

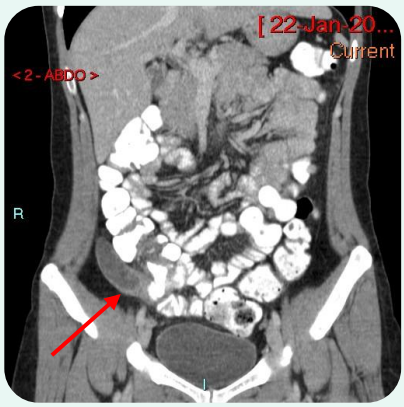
Materials and Methods

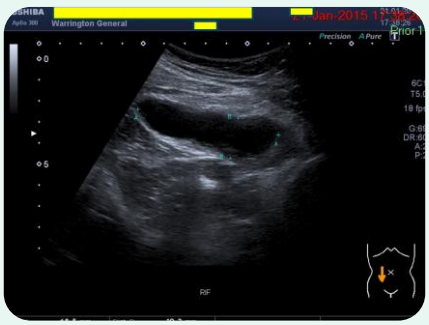
We retrospectively reviewed cases of appendiceal mucoceles presented at the lower gastrointestinal cancer multidisciplinary team meetings. Our inclusion criteria for this study were patients with a confirmed histopathological diagnosis. Clinical data, imaging studies, intraoperative findings, and histopathology reports were analysed.

Results

Our cases revealed a variety of incidental findings during imaging. CT imaging played a crucial role in the initial identification and preoperative planning. Histopathological diagnoses found included simple mucosal hyperplasia, low-grade appendiceal mucinous neoplasms (LAMNs), high-grade appendiceal mucinous neoplasms (HAMNs), and numerous mucinous adenocarcinomas. One case demonstrated a goblet cell adenocarcinoma with neuroendocrine features.

Case 1





- A **39-year-old** female presented with **RIF** pain for three days.
- Inflammatory markers were within normal limits, and an abdominal ultrasound demonstrated a **dilated, fluid-filled** structure in the right iliac fossa.
- Subsequent CT imaging revealed a **dilated, fluid-filled appendix** with **soft tissue thickening** at its base.
- Post-appendicectomy **histology** demonstrated overall appearances consistent with acute suppurative appendicitis and a **mucocele**.

The Royal College of Radiologists
RADIOLOGY HONG KONG 2025
11TH JOINT SCIENTIFIC MEETING OF RCR & HKCR
AND
33RD ANNUAL SCIENTIFIC MEETING OF HKCR

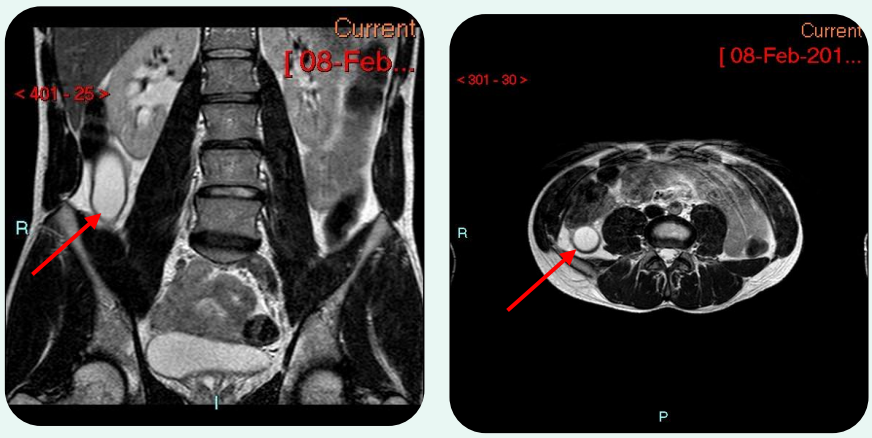
More Than Meets the Appendix: Diagnostic Clues From A Mucocele Case Series

Wesley Choi, Akash Ganguly, Cheng Li and Chinedum Anosike

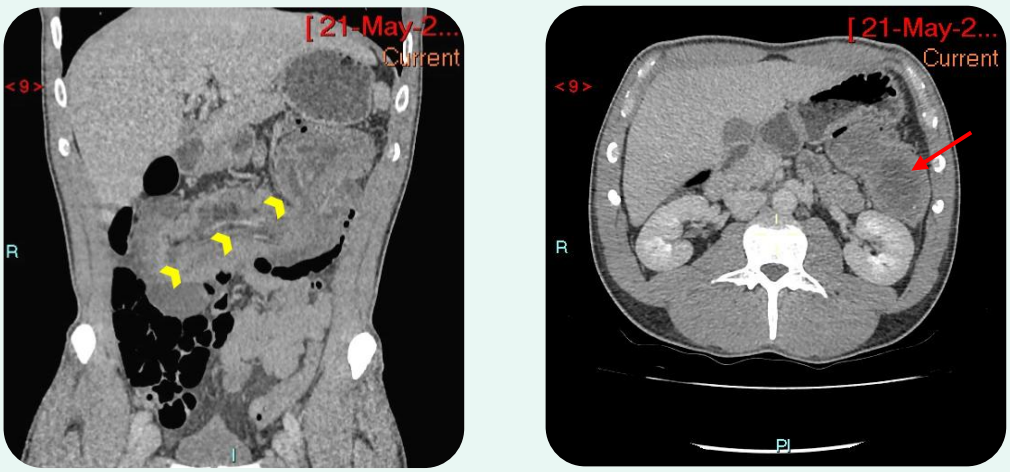
NHS
Warrington and Halton Teaching Hospitals
NHS Foundation Trust

- A **38-year-old** male was admitted following a fall. A CT trauma pan-scan incidentally revealed a **right paracolic tubular, fluid-filled structure**.
- Subsequent MRI of the abdomen demonstrated a **dilated, fluid-filled appendix** consistent with an **appendiceal mucocele**
- Histology confirmed a mucocele with **adenomatous** epithelial change and associated **low-grade dysplasia**.

Case 2



Case 3



- A **44-year-old** man presented with a change in bowel habits, alternating constipation and diarrhoea.
- CT of the abdomen and pelvis demonstrated a large **intussusception** of the ascending colon into the transverse colon (yellow markers).
- At the end of the intussusception, a dilated **tubular appendix** with rim calcification is noted
- Histology showed a Christie Classification (Br J Surg 2012). **LAMN type I**

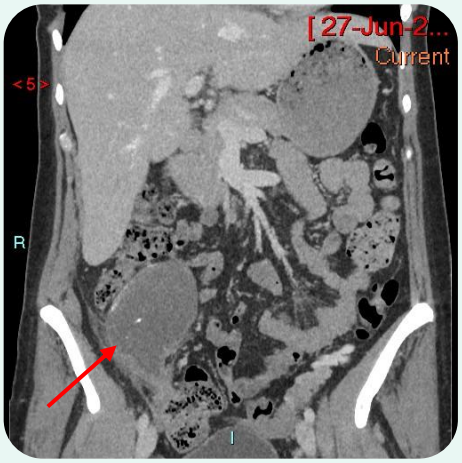
The Royal College of Radiologists
RADIOLOGY HONG KONG 2025
11TH JOINT SCIENTIFIC MEETING OF RCR & HKCR
AND
33RD ANNUAL SCIENTIFIC MEETING OF HKCR

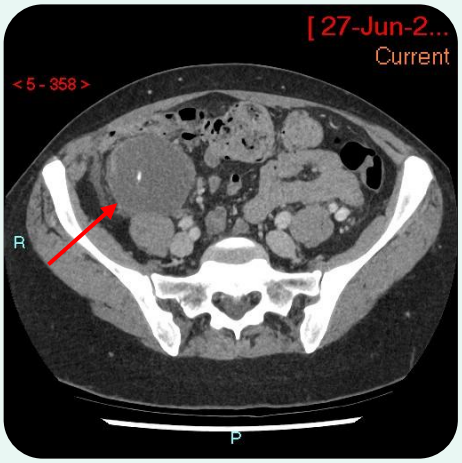
More Than Meets the Appendix: Diagnostic Clues From A Mucocele Case Series

Wesley Choi, Akash Ganguly, Cheng Li and Chinedum Anosike

NHS
Warrington and Halton Teaching Hospitals
NHS Foundation Trust

Case 4





- A **50-year-old** woman presented to the emergency department with severe RIF pain.
- Her CRP level was 30.
- CT imaging demonstrated a **thick-walled, distended appendix** with **rim calcification** and surrounding **fat stranding**.
- Post-appendicectomy histology revealed a primary appendiceal, moderately differentiated invasive **adenocarcinoma**, pathological stage **pT3**.

Conclusion

This case series demonstrates the importance of considering appendiceal mucoceles in the diagnosis of right lower quadrant pain and the value of early imaging recognition.

Surgical management tailored to intraoperative findings and histology remains essential to minimise the risk of potential metastatic spread.

References

1.Kumail Khandwala, Sajjad N, Khan DB, Malik AA, Memon WA, Rao MO, et al. CT features with histopathological correlation in inflammatory versus benign & malignant neoplastic appendiceal mucoceles: a retrospective cross-sectional study. BMC Gastroenterology. 2025 Jan 28;25(1).

2.Gurinder Dhanju, Ashraf Goubran, Kirkpatrick I, Mina F, Rachan Preet Jammu. A Multimodality Diagnostic Imaging Approach for an Appendiceal Mucocele: A Case Series. Journal of diagnostic medical sonography. 2024 Sep 12;

3. McDonald JR, O'Dwyer ST, Rout S, Chakrabarty B, Sikand KA, Fulford PE, et al. Classification of and cytoreductive surgery for low-grade appendiceal mucinous neoplasms. 2012 Jul 1;99(7):987–92.