ORIGINAL RESEARCH PAPER

Radio-Diagnosis

APPENDICEAL MUCOCELE WITH SUSPECTED MUCINOUS NEOPLASM: A RADIOLOGICAL DIAGNOSTIC CHALLENGE

KEY WORDS: Appendix; Appendiceal Mucocele; Mucinous Neoplasm; Computed Tomography

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ABSTRACT

Appendiceal mucocele is an uncommon finding that may result from non-neoplastic obstruction or an underlying mucinous neoplasm. Clinical manifestations are often nonspecific, making imaging important for detection and preoperative assessment. We describe a 67-year-old woman who presented with right iliac fossa pain and vomiting. Ultrasonography demonstrated a cystic lesion in the right iliac fossa containing internal echoes, with free intraperitoneal fluid. Contrast-enhanced computed tomography showed a well-defined, fluid-filled tubular lesion arising from the caecal region, mural calcification, gross ascites, omental thickening and omental deposits. Emergency laparotomy revealed a distended appendix with peritonitis. Histopathological confirmation was not available for review; therefore, the precise nature and grade of the appendiceal lesion could not be established. This case highlights the importance of assessing associated peritoneal findings when evaluating an appendiceal mucocele.

INTRODUCTION

Appendiceal mucocele describes dilatation of the appendix by accumulated mucus. It may result from non-neoplastic obstruction or an underlying mucinous neoplasm; the term itself does not establish benignity or malignancy. Clinical presentation is often nonspecific, and imaging helps identify the appendiceal origin and assess possible extra-appendiceal disease [1,2].

Case Report

A 67-year-old woman presented with right iliac fossa pain for two weeks and vomiting. Ultrasonography showed an elongated, thin-walled cystic lesion in the right iliac fossa with internal echoes, together with free intraperitoneal fluid containing echoes (Figure 1).

Contrast-enhanced CT demonstrated a well-defined, mildly enhancing tubular cystic lesion arising from the caecal region, with eccentric mural calcification and gross ascites. Omental thickening, fat stranding and nodular omental deposits were also described (Figures 2 and 3).

Emergency laparotomy revealed a distended appendix with peritonitis. The authors were verbally informed by a surgeon that malignant cells had been identified; however, the histopathology report was unavailable for independent review. Accordingly, the exact histological subtype and presence or pattern of invasion cannot be confirmed.

DISCUSSION

Appendiceal mucoceles may be non-neoplastic or associated with mucinous neoplasms. Histological entities include low-grade appendiceal mucinous neoplasm (LAMN), high-grade appendiceal mucinous neoplasm (HAMN) and mucinous adenocarcinoma [2,3]. These are distinct diagnoses and cannot be differentiated definitively by the term "mucocele" alone.

LAMN may demonstrate pushing growth and dissecting mucin, whereas mucinous adenocarcinoma is characterised by infiltrative invasion. Peritoneal dissemination of mucin, with or without neoplastic epithelium, may be associated with pseudomyxoma peritonei [2,5]. In the present case, the combination of gross ascites, omental thickening, fat stranding and nodular omental deposits raises concern for peritoneal involvement. However, these imaging findings are not sufficient to establish the histological subtype or confirm pseudomyxoma peritonei. Correlation with operative findings and histopathology would be required for definitive diagnosis.

On ultrasound, a mucocele may appear as a cystic or tubular right iliac fossa lesion. CT typically shows a well-defined, low-attenuation lesion contiguous with the caecum; mural calcification may support the diagnosis [1,4]. Wall irregularity or a soft-tissue component raises concern for neoplasia. Ascites, omental thickening and peritoneal nodules should be reported because they may indicate extra-appendiceal disease [5].

Management depends on the underlying histological subtype, extent of disease, appendiceal base involvement, margin status and presence of peritoneal disease. Surgical planning should be individualised by the treating multidisciplinary team [3,6]. In selected patients with confirmed pseudomyxoma peritonei, cytoreductive surgery with hyperthermic intraperitoneal chemotherapy (HIPEC) may be considered [3,6]. Accurate preoperative recognition of a suspected appendiceal mucinous lesion and associated peritoneal abnormalities is important, as careful handling is required to minimise the risk of rupture and mucin spillage.

CONCLUSION

An appendiceal mucocele warrants assessment for an underlying mucinous neoplasm and extra-appendiceal disease. Radiologists should evaluate the appendiceal wall, ascites, omentum and peritoneum and communicate suspicious findings to the surgical team. In this case, imaging raised concern for an appendiceal mucinous lesion with possible peritoneal involvement.

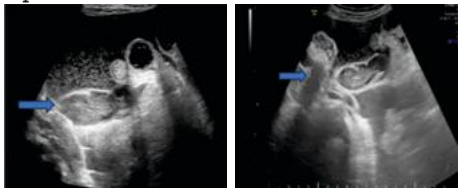


Figure 1. Ultrasound (a, b): Elongated, Thin-walled Cystic Lesion with Internal Echoes in the Right Iliac Fossa and Echogenic Free Fluid. Arrows Mark the Findings.

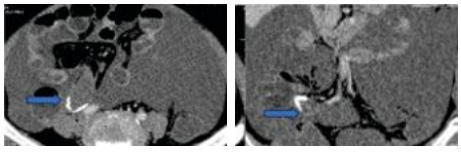


Figure 2. Axial (a) and Coronal (b) CECT: Mildly Enhancing Tubular Cystic Lesion Arising from the Caecal Region, Eccentric Mural Calcification and Gross Ascites. Arrows Mark the Findings.

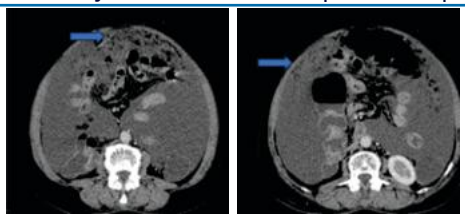


Figure 3. Axial CECT (a, b): Omental Thickening and Nodular Deposits with Gross Ascites. Arrows Mark the Omental Abnormalities.

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