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CASE REPORT

# Phlegmonous Appendicitis and Mobile Cecum Syndrome Simulating Ileal Duplication Cyst in a 9 Year Old Girl

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**Abstract** Mobile cecum syndrome is a rare entity that produces recurrent lower abdominal pain mimicking appendicitis. Appendicitis developing in a mobile cecum at an abnormal location eludes the clinical diagnosis and confuses the clinicians unless a high index of suspicion is harbored. We present an unusual case of phlegmonous appendicitis in a mobile cecum masquerading as duplication cyst of ileum in a 9 years old girl.

**Keywords** Mobile cecum syndrome · Phlegmonous appendicitis · Ileal duplication

## Introduction

Appendicitis, a common surgical emergency, often challenges physicians by its unusual presentations. A 'syndrome of mobile cecum' has been described to produce appendicitis like recurrent symptoms due to partial volvulus of cecum [1, 2]. Appendicitis with a mobile cecum poses a diagnostic dilemma due to its unusual location [3, 4]. Delays in diagnosis and complications are not unusual. We present a rare combination of mobile cecum syndrome and phlegmonous appendicitis masquerading as ileal duplication cyst in a 9 year old girl. We believe this to be the first such report in the English literature.

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## Case Report

A 9 year old girl presented with complaints of lower abdominal pain primarily in the right iliac fossa and suprapubic area for 1 week duration. She had associated history of frequent micturition and fever of moderate grade. She did respond to antibiotic therapy prescribed by a private physician whose provisional diagnosis was urinary tract infection.

There was no history of vomiting, constipation,diarrhea or respiratory tract symptoms. She had two previous episodes of severe right lower quadrant abdominal pain and vomiting within past 12 months relieved spontaneously by passage of flatus and bowel movement. She was treated with anti-colic drugs by a private physician on both of these episodes. Records showed her investigations including blood counts, urine analysis and ultrasound examination of abdomen and pelvis were essentially normal during these episodes. In the present episode physical examination revealed an apparently healthy girl, with stable vital signs, normal right iliac fossa and a vague mildly tender swelling in the suprapubic area.There was no history of attaining menarche. Investigations revealed a WBC count of 12,000/μL and normal urine analysis. Ultrasound abdomen revealed a 6×6 cm2 cystic swelling with heteroechoic wall and echogenic content in the supravesical location closely surrounded by small bowel (Fig. 1). There was no free fluid in the pelvis or right iliac fossa. Appendix could not be identified. A diagnostic/therapeutic laparoscopy was planned. Palpation under anesthesia revealed a definite globular mobile suprapubic swelling. Laparoscopy revealed a swelling at the mesentery of the terminal ileum close to the ileocecal junction with a cecum which could easily be moved around. An ileal loop was stretched over the swelling (Fig. 2a). A diagnosis of mesenteric ileal duplica-

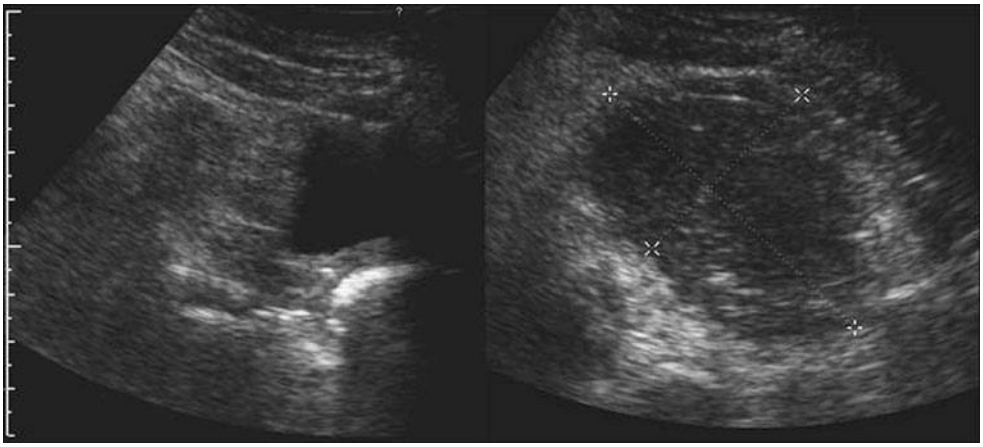

**Fig. 1** Juxtavesical hypoechoic cystic mass on ultrasonography

tion cyst was made and the abdomen was explored. The cecum was mobile with the taenia converging into the swelling. Appendix was not visualized. Dissection of the paracecal peritoneal fold yielded 3 cc of purulent material with thickened and edematous appendix within the swelling surrounded by an inflammatory wall (Fig. 2b, c) suggestive of appendicular abscess. Adjoining ileal loop was normal. Histopathology revealed transmural inflammatory infiltrate, mucosal ulceration, perforation and purulent intraluminal contents consistent with phlegmonous appendicitis.

## Discussion

Mobile cecum syndrome is an entity characterized by recurrent pain in the abdomen commonly in the periumbilical or right iliac fossa due to partial volvulus of cecum, relieved by passage of flatus or bowel movement [1] and without features of appendicitis or any other pathology detectable at laparotomy as describe by Nicole [2]. Appendicitis developing in a mobile cecum can produce atypical symptoms and signs extremely confusing to the clinicians. Appendicitis in a subhepatic cecum has been known to simulate acute cholecystitis, hepatitis or hepatic abscess if complicated [3, 4]. In suprapubic location of cecum, a phlegmonous appendicitis has mimicked a bladder tumor in its chronic manifestation [5]. In female patients even unusual tubo-ovarian abscess has been reported as a manifestation of phlegmonous pelvic appendicitis [6] In our case the suprapubic mobile tender swelling with normal right iliac fossa incited a few differential diagnoses such as torsion of ovarian cyst (or tubo-ovarian mass), infected mesenteric cyst and mesenteric lymphadenitis. Ultrasonography finding of a 6×6 cm2 cystic swelling with echogenic content close to ileal loop at supravesical location and features of infective process such as spike of fever and bladder irritation prompted us to entertain the diagnoses of duplication cyst or Meckel's diverticulitis along with previously mentioned two differentials. Diagnostic laparoscopy and the laparotomy findings resembled a typical ileal duplication cyst. Final exploratory finding of mobile cecum, phlegmonous appendicitis, circumscribed inflammatory wall (Fig. 2b) within the folds of mesentery is explained by the fact that nonobstructive phlegmonous appendicitis in a preileal location would get cocooned between the peritoneal folds (paraileal folds) due to a previous course of antibiotics. A mobile cecum in supravesical area led to this unusual presentation. Retrospective-

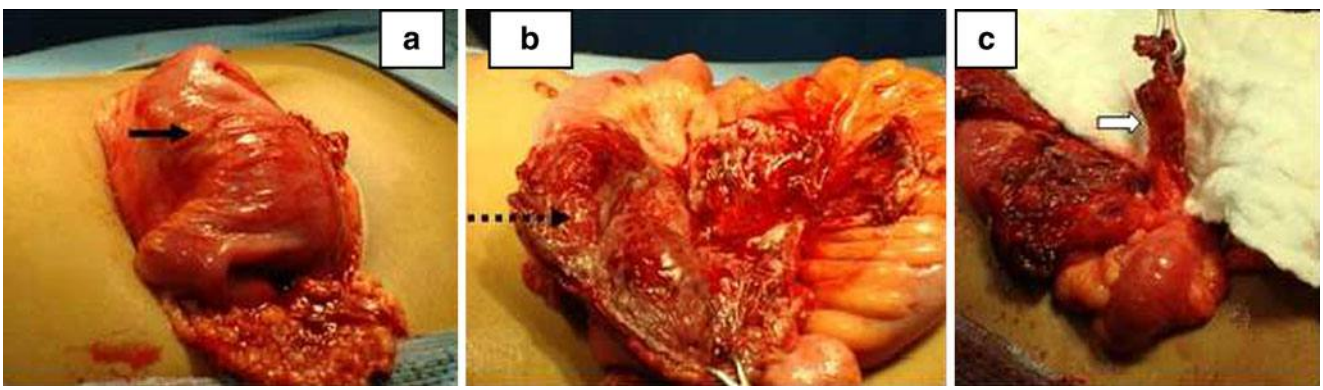


**Fig. 2** Mesenteric swelling with stretched ileum (solid arrow **a**), opened cocoon with inflammatory wall (dotted arrow **b**) and phlegmonous appendix (block arrow **c**)

ly the previous two attacks of lower abdominal pains in this child could be related to the rare mobile cecum syndrome [7]. Cecopexy is a debatable option in the management of the mobile cecum syndrome and we preferred to defer cecopexy in accordance with others [8].

## Conclusion

Mobile cecum syndrome is an important cause of recurrent right iliac fossa and periumbilical pain. Phlegmonous appendicitis in this scenario will give rise to a mobile mass posing diagnostic dilemma to the clinician. Antibiotic therapy in an undiagnosed case of pain abdomen can lead to cocooning of this phlegmon masquerading as ileocecal duplication on radiology, diagnostic laparoscopy as well as on exploratory laparotomy. Appendectomy alone is curative but remains technically demanding due to thick inflammatory wall and adherent small bowel.

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