CASE REPORT

# Cecal Epidermoid Inclusion Cyst: A Rare Case Presentation & Surgical Management

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## ABSTRACT

We present a case of a 27-year-old male who presented with sudden onset right lower abdominal pain, associated with vomiting and loss of appetite. Clinical examination and diagnostic investigations led to a diagnosis of appendicular perforation. Intraoperative findings revealed a cecal lump about 10cm * 10cm with unhealthy gangrenous patches and pelvic collection, for which a right hemicolectomy was performed without a covering stoma. The patient had an uneventful recovery, and the histopathological analysis confirmed the diagnosis of a ceacal epidermoid inclusion cyst which is a very rare disease. These cysts may be confused with other intraabdominal cystic lesions, including mesenteric cysts, lymphatic cysts, appendiceal mucoceles or duplication cysts. We discuss the rarity of this case, Only ten such cases have been reported so far in the whole world and we are reporting the 11th case and presenting the challenges encountered in its diagnosis and management.

**Categories:** Pathology, General Surgery, Therapeutics
**Keywords:** inclusion cyst, nonkeratinized
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## BACKGROUND

Cecal epidermoid inclusion cysts are an extremely uncommon entity, with only a handful of cases (nine) reported worldwide as reported by Andiran F, et al,[1], Maddy HH, et al,[2], Sahoo MR, et al,[3]. Epidermoid cysts rarely develop in the cecum, but they have been commonly reported in other internal organs, including the testes, spleen, accessory spleen, liver and kidneys. They often present diagnostic challenges due to their rarity and nonspecific clinical features. We describe the presentation, intraoperative findings, surgical management, and histopathological analysis of a cecal epidermoid inclusion cyst in a young male patient.

## CASE PRESENTATION

A 27-year-old male presented in a surgical emergency with sudden-onset, non-radiating right lower abdominal pain, associated with vomiting and loss of appetite. Physical examination revealed deep tenderness and rebound tenderness in the right lower abdomen with guarding of the lower abdomen, no lump was palpable. Diagnostic investigations, including ultrasound and laboratory tests, were suggestive of an abdominal collection in the right iliac fossa and A possible diagnosis of appendicular perforation was made and the patient was shifted to the operation theatre after performing baseline evaluations. Intraoperatively there was smelling greyish coloured fluid in the pelvic cavity and a 10 * 10cm swelling over the cecum that was soft in consistency with an overlying gangrenous patch over the antimesenteric border was seen, The swelling was like a fluid collection in the wall of the cecum that was contained within the thickened layers of the caecum and the gut contents were easily passable back and forth the caecum. A probable diagnosis of caecal malignancy was made and right hemicolectomy with end-to-side ileo-transverse

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anastomosis was done without a diversion ileostomy. The post-post-operative period was uneventful and only after the histopathological reports, the diagnosis of the caecal epidermoid inclusion cyst could be made. Figures 1,2,3 and 4 show intraoperative pictures of our case including post-operative histopathological findings showing stratified squamous non-keratinized epithelium in cecal mucosa confirming the diagnosis of a cecal epidermoid inclusion cyst.

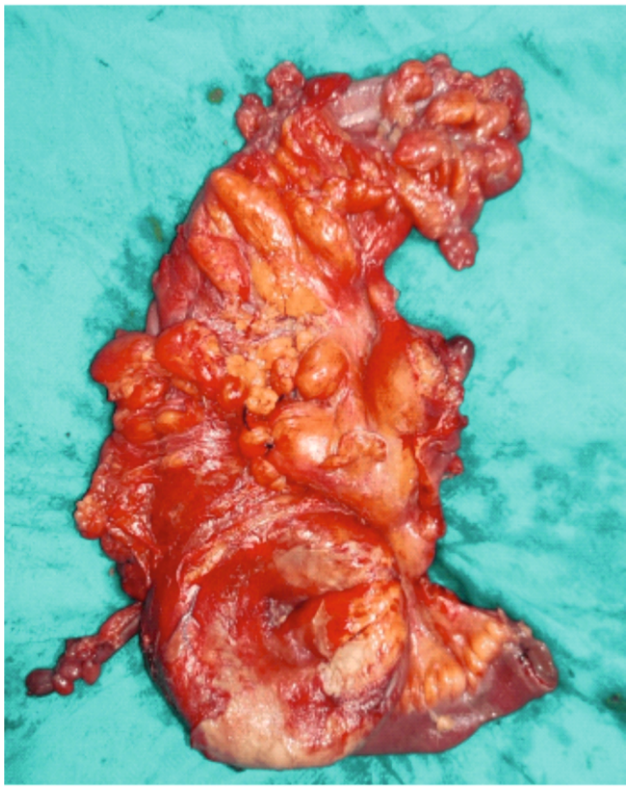


**Fig. 1:** Right hemicolectomy specimen with cecal cyst after excision Upon exploration, approximately 300 ml of purulent fluid with pus flakes was found in the pelvis. The cecum appeared distended about 10*10 cm with a soft consistency, serosa of the caecum appeared edematous, and thickened, with a gangrenous patch. The contents were felt in the wall of the caecum, fluctuant, and fluid and couldn't be passed through the lumen, however, gut contents were easily passable. The appendix was normal and located in a retrocecal position. Multiple lymph nodes were observed along the mesentery of the small bowel.

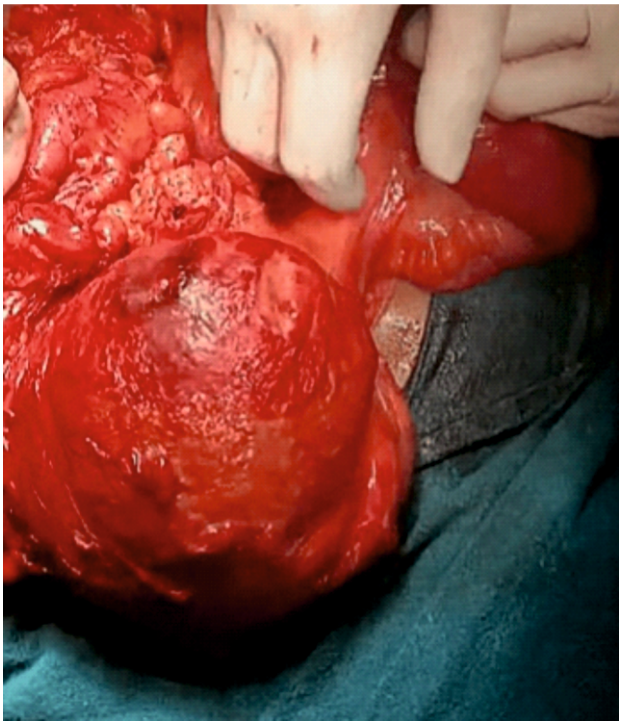


**Fig. 2:** Ceacum as seen intraoperatively Considering the intraoperative findings and suspicion of cecal malignancy, a right hemicolectomy with iliotransverse end-to-side anastomosis was performed without a defunctioning stoma. The patient's postoperative recovery was uneventful. On cut section and gross examination, foul smelling, yellowish-white, cheesy, putty-like exudate came out of the wall of the caecum, however, the lumen was normal with no obstruction.

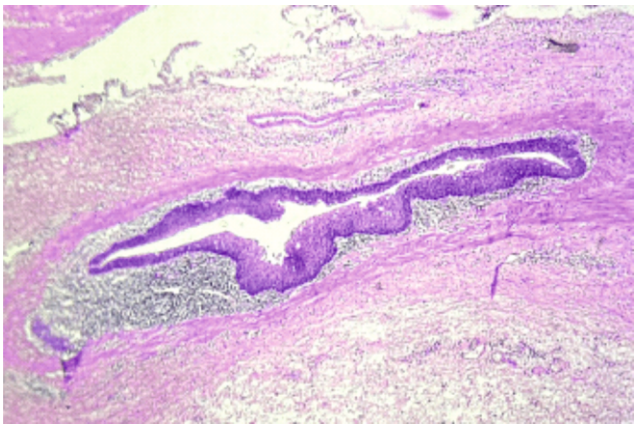


**Fig 3:** Stratified squamous non-keratinized epithelium seen on caecum after histopathological examination

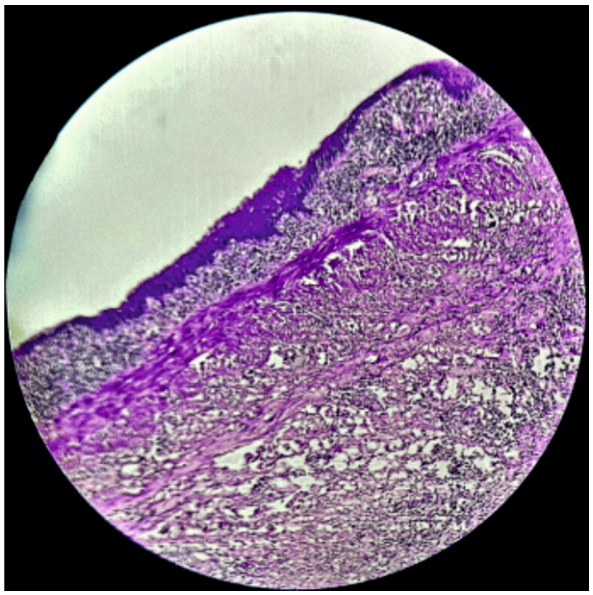


**Fig. 4:** Stratified squamous non-keratinized epithelium seen on histopathological examination of caecum

The histopathological examination of the resected specimen revealed 15 lymph nodes with focal ulceration lined by granulation tissue and dense chronic inflammatory infiltrates. A unique feature was the visualization of stratified squamous nonkeratinized epithelium within the cecal wall, confirming the diagnosis of the cecal epidermoid inclusion cyst.

## DISCUSSION

Cecal epidermoid inclusion cysts are exceptionally rare and their presentation often mimics other more common conditions as shown in the table below. Only eleven cases of epidermoid inclusion cyst of caecum have been reported so far in the world including our case, as observed by authors listed in the reference section. These cysts are formed most commonly after iatrogenic trauma and rarely are formed during organogenesis and rotation of the gut when the gut takes epidermal tissue along with it while reducing back into the peritoneal cavity as explained by Andiran, et al,[1] The lack of awareness and extreme rarity about this entity can lead to diagnostic challenges and mislead the diagnosis and management. Its differential diagnosis can include appendiceal mucocele, caecal growth, GIST, appendicular perforation, ovarian cysts, duplication cysts and mesenteric cysts. So far, as reported in the literature out of 11 such cases

reported none of the authors made a preoperative diagnosis of epidermal inclusion cysts of

caecum due to its rarity. Surgical management needs excision of caecum with end-to-end anastomosis only and as demonstrated in this case, the rarity of this condition can often lead to overdoing and sometimes mismanagement of this condition.

## CONCLUSION

We present a rare case of a cecal epidermoid inclusion cyst, emphasizing the importance of considering such rare differential diagnoses in patients with acute abdominal symptoms. Timely surgical intervention and accurate histopathological analysis are crucial for confirming the

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. | Pan A Et Al | 53 | M | Appendectomy | Right Lower Abdominal Mass | Intramural | 1961 |
| 2. | Chanddreviotis N Et Al | 27 | F | None | Right Ovarian Cyst | Subserosal | 1965 |
| 3. | Pear Bl Et Al | 71 | F | Appendectomy | Intramural Ceacal Mass | Intramural | 1969 |
| 4. | Andrian F Et Al | 8 | F | None | Right Lower Abdominal Cyst | Subserosal | 1999 |
| 5. | Mady Hh Et Al | 67 | M | None | Duplication Cyst | Subserosal | 2002 |
| 6. | Uzuniar Et Al | 75 | M | None | Appendical Mucocele | Subserosal | 2006 |
| 7. | Demir H Et Al | 31 | F | Cesarean | Adenexal Mass | Subserosal | 2012 |
| 8. | Sahoo Mr Et Al | 54 | M | None | Mesentric Cyst | Subserosal | 2013 |
| 9. | Jy Park Et Al | 63 | F | None | Gist | Intramural | 2014 |
| 10. | Tominaga T Et Al | 20 | F | None | Gist | Subserosal | 2021 |
| 11. | (Our Case) | 27 | M | None | Appendicular Perforation | Intramural | 2023 |

diagnosis and guiding appropriate management. Thus, cecal epidermoid inclusion cysts although very rare, should be kept in mind while managing a case of right iliac fossa pain and the diagnosis should be confirmed on histopathology.

**Additional Information**

**Disclosures**

**Human subjects:** Consent was obtained or waived by all participants in this study.

**Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following:

**Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work.

**Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work.

**Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work. 5 of 6

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