

An Incidental Cecal Epidermoid Cyst: Expanding the Differential of Right Lower Quadrant Masses

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Introduction

Epidermoid cysts found in internal organs are rarely identified, but have been found on spleen, testes, liver and kidneys. Epidermoid cysts are extremely rare, with only 14 cases of cecal epidermoid cysts reported in a literature review on PubMed. Epidermoid cysts are usually congenital or acquired. Acquired epidermoid cysts can be a result of prior abdominal surgeries or abdominal trauma.

Case Description

A 57-year-old male with a past medical history of hypertension and hyperlipidemia was found to have an incidental mass on CT abdomen and pelvis obtained for a trauma work-up after a 6-foot accidental fall. Imaging was notable for 6.9 cm hypodense right lower quadrant mass concerning for mucocele. The patient denied any abdominal pain, nausea, vomiting, fever. He denies any history of abdominal surgeries and abdominal trauma. His last colonoscopy was at the age of 50, which was normal. His family history only consisted of metastatic prostate cancer in his father. His tumor markers were also within normal range. He underwent diagnostic laparoscopy, and a 10 x 10 cm appendiceal tumor was identified. Intra-operatively, there was no evidence of peritoneal implants or mucinous ascites. The appendix was firm and fluid-filled, with involvement of the ileocecal valve. For this reason, ileocecectomy was performed. The mass was resected with no violations and with negative margins. Final pathology was reported as a benign epidermoid cyst attached to the cecum, without evidence of dysplasia or malignancy. All lymph nodes were negative for malignancy .

Figure 1: Axial CT abdomen and pelvis showing right lower quadrant mass

Figure 2: Histologic appearance of the epidermoid cyst (lower left) showing its separation from the smooth muscle wall (upper left). 100x. A cystic mass was present in the adjoining adipose tissue at the base of the appendix and adjoining cecum. The cyst measured 7.5 x 3.5 x 4.1 cm, was entirely outside the cecum and appendix, without any extension into the smooth muscle wall. The cyst was filled with keratinaceous material and was lined by a keratinizing squamous epithelium. There was no evidence of dysplasia or any evidence of teratomatous tissues.

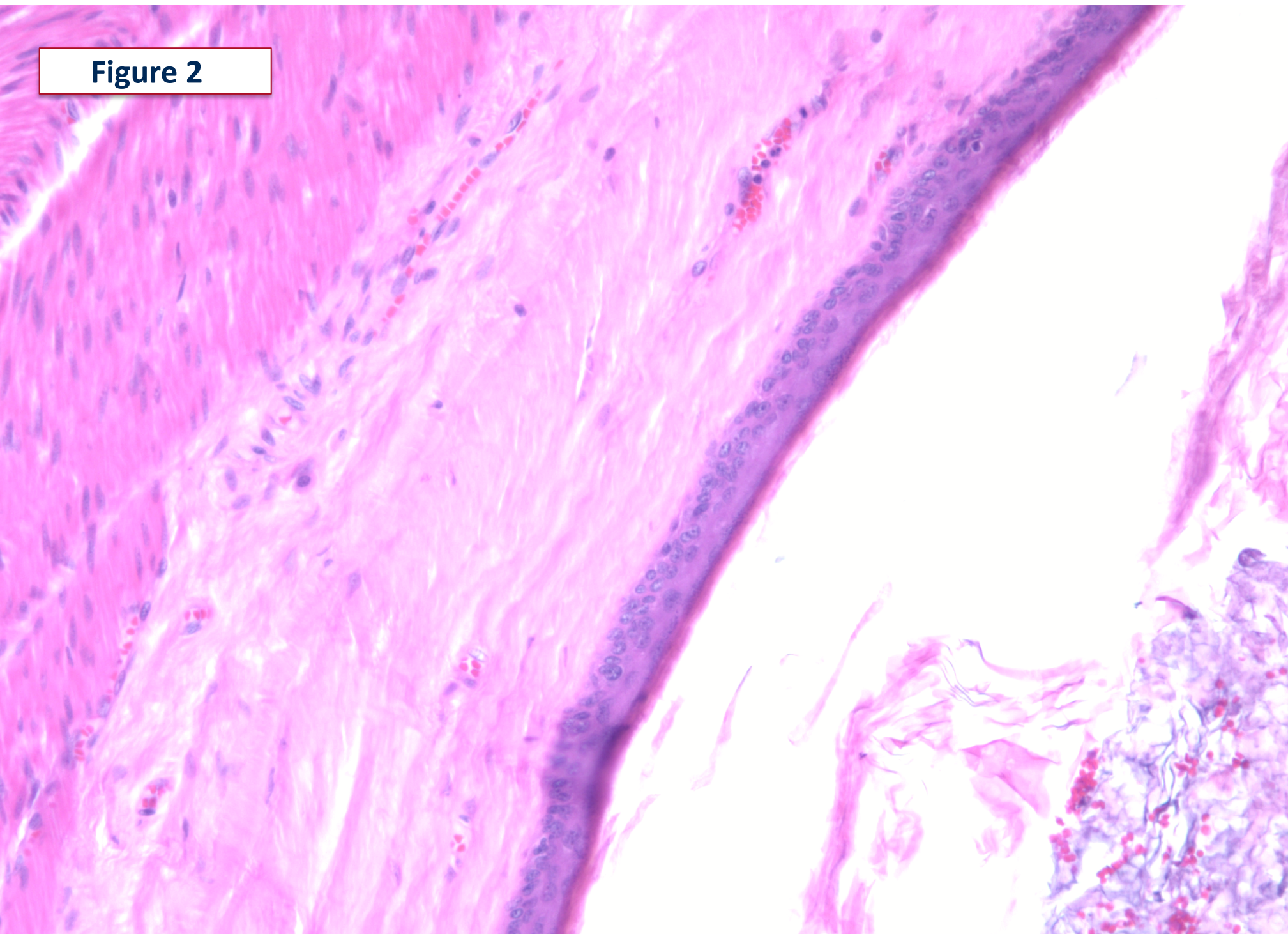
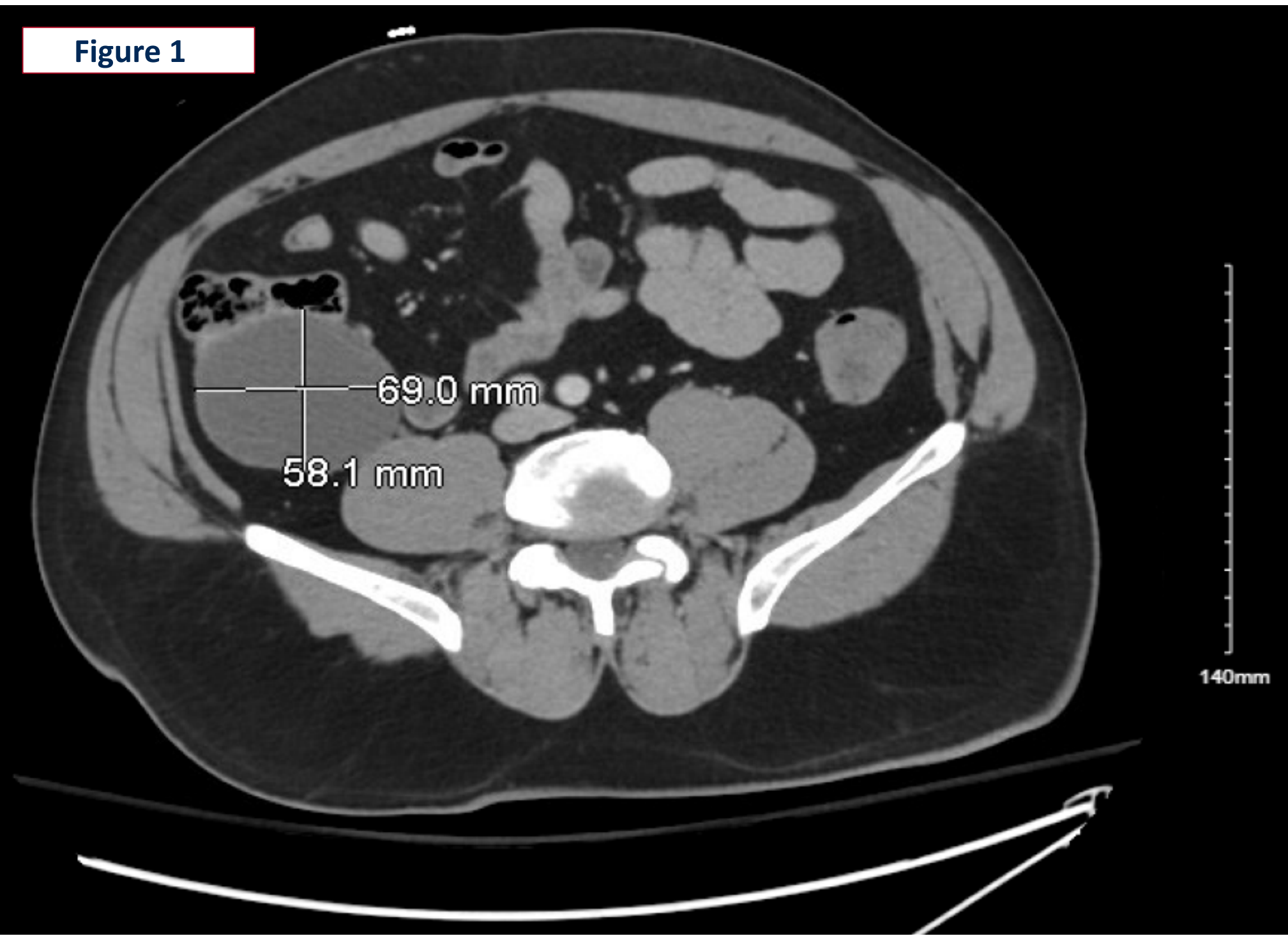


Table 1: Reported Cases of Cecal Epidermoid Cysts

Case No.	Age (Yr)	Sex	Hx of operation	Hx of Trauma	Initial Diagnosis	Location of epidermoid cyst	Year reported
1	22	F	Appendectomy	Unknown	Malignant mass	Cecum, intramural	1961
2	27	F	None	Unknown	Chronic appendicitis	Cecum, Intramural	1965
3	71	M	Appendectomy, Sigmoidectomy, Strangulated hernia repair	Unknown	Right lower quadrant mass	Cecum, submucosa	1969
4	8	F	None	Unknown	None	Cecum, subserosal	1999
5	67	M	None	None	Extraluminal cystic cecal mass	Cecum, serosal	2002
6	75	M	None	Unknown	Right lower quadrant cyst	Cecum, intramural	2006
7	31	F	Cesarean section	Unknown	Adnexal mass	Cecum, subserosal	2012
8	54	M	None	Unknown	Mesenteric cyst	Cecum, subserosal	2013
9	63	F	None	Unknown	GIST	Cecum, intramural	2015
10	20	F	None	None	Duplication cyst	Cecum, unknown	2021
11	3 day	M	None	Unknown	Retroperitoneal teratoma	Cecum, subserosal	2021
12	51	M	None	Yes	Appendiceal mucocele	Cecum, intramural	2021
13	55	M	Exploratory laparotomy	Unknown	Ileocecal carcinoma	Ileum, cecum, part of ascending colon, serosal	2024
14	28	F	None	None	Duplication cyst or endometriotic cyst formation	Cecum, intramural	2025

Discussion

In this case, the lesion was incidentally discovered during a trauma work-up underlining how epidermoid cysts can be asymptomatic as well as mimic other pathologies such as carcinoma or other intra-abdominal cysts on imaging. While intra-operatively, the mass was suspicious for an appendiceal tumor, the definitive pathology revealed a benign epidermoid cyst. Additionally, etiology of epidermoid cysts is either acquired secondary to prior abdominal surgeries or abdominal trauma, or congenital. Given that our patient lacked prior abdominal surgeries or abdominal trauma, his lesion was likely congenital in origin. Treatment of epidermoid cysts usually consists of complete surgical resection. Resection of these cysts ensures diagnostic confirmation as well as prevention of recurrence and malignant transformation. Epidermoid tumors have an incidence rate of malignant transformation of 0.011 – 2.2%. Malignant transformation may be attributed to chronic inflammatory changes due to repeated cyst ruptures and subtotal resection of cyst wall. In this case study, the patient underwent diagnostic laparoscopy and ileocecectomy, given the involvement of ileocecal valve. Surgical approach may vary from laparotomy in an emergent setting such as perforation peritonitis, versus laparoscopic interventions.

Conclusion

This case is novel due to the extreme rarity of epidermoid cysts, with only 14 reported cases identified in English-language literature. Pre-operative diagnosis of epidermoid cyst remains challenging and this case contributes to the scarce literature, expanding the understanding of the differential diagnosis of right lower quadrant cystic masses as well as reinforcing the significance of surgical excision as a diagnostic and therapeutic intervention.

References

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