CASE REPORT

Unusual site and uncommon presentation of epidermoid cyst: a rare case report and review of literature

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SUMMARY

Epidermoid cyst of gastrointestinal tract is very rare, and only a few cases of epidermoid cyst of the caecum have been reported in the literature. We report the first case of epidermoid cyst of the caecum in an elderly man, mimicking mesenteric cyst clinically. It was treated by laparoscopic excision of the cyst. The cyst was spherical, extending from and expanding the serosal surface of the caecum with no communication through the muscularis wall. Histologically, the inner lining of the cyst was composed of benign, mature, keratinised and stratified squamous epithelium with a well-formed granular layer. On opening, the cyst contained pultaceous cheesy material. No calcification, hair, teeth or bone elements were detected.

BACKGROUND

Pure, benign epidermoid cysts of the abdominal viscera are rare. There have been only limited cases, which originated from testis, epididymis, spleen and liver. There have been only seven reports of epidermoid cysts of the caecum in the literature (table 1). These cysts can be of two varieties: acquired and congenital. Acquired variety is seen where one has history of abdominal operation and these cysts were attributed to iatrogenic implantation of epidermal fragments via surgical tools^{1–3}. Congenital variety is described in patients who do not have any history of previous intra-abdominal surgery or abdominal trauma and probably resulted from an aberrant embryogenic ectodermal implantation during embryogenesis.^{4–7}

CASE PRESENTATION

A 54-year-old man who had been suffering from intermittent right iliac fossa pain, since the last 3 months, presented with worsening pain and fever

to the emergency ward. On physical examination, a palpable, non-tender abdominal mass was identified in the patient's right iliac fossa which was freely mobile. There was no history of any abdominal trauma or surgery in the past and his family history was non-significant.

INVESTIGATIONS

Ultrasound revealed a fairly large site occupying lesion of size 6.6×7.6 cm having regular outer margin with heterogeneous echogenicity with few anechoic necrotic areas seen adjacent to the psoas suggestive of an abscess. CT scan demonstrated an intestine-related globular smoothly outlined solid and cystic mass lesion in the right iliac fossa region with no calcification and no lymph-node involvement and gave an impression of being a mesenteric cyst (figure 1). The surrounding organs and tissues appeared normal. Additional masses, lymphadenopathy, evidence of inflammation and abnormal fluid collections within and around the peritoneal cavity were absent. Colonoscopy showed no mucosal abnormality and there was a bulge due to extrinsic mass compressing the caecum. Ultrasound-guided fine needle aspiration biopsy was attempted, but it was not possible to aspirate fluid after multiple passes.

DIFFERENTIAL DIAGNOSIS

Mesenteric cyst, gastro intestinal stromal tumour and appendicular lump.

TREATMENT

Later diagnostic laparoscopy showed a mass adherent to the caecum on its antimesenteric border (figure 2). The mass was dissected completely free of the caecum without injuring the caecum (figure 3). There was no luminal communication between the cyst and the caecum. Later, a pfannenstiel incision was given to

Table 1 Reported cases of epidermoid cyst of the caecum till now

Cases	Age (years)	Sex	Operation history	Initial diagnosis	Year of case report	References
1	22	Female	Appendectomy 12 years back	Right lower abdominal mass? Caecal defect	1961	1
2	27	Female	None	Chronic appendicitis? Ovarian torsion	1965	6
3	71	Male	Appendectomy 16 years back	?Extrinsic or intramural caecal mass	1969	2
4	8	Female	None	Right lower abdominal cyst	1999	4
5	67	Male	None	?Duplication cyst	2002	5
6	75	Male	None	?Appendix mucocele	2006	7
7	31	Female	Caesarean section	Adnexal mass	2011	3

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Figure 1 Contrast enhanced computed tomography scan picture showing mass adherent to the caecum.

deliver the mass out. Gross examination of the specimen showed a 7×8×6 cm globular mass, which on cut opening, showed pultaceous white cheesy material coming out of it (figure 4). No hair or other structures were found in cyst contents. The cyst was uniloculated and had a smooth inner surface. Histopathological study showed it to be an epidermoid cyst.

OUTCOME AND FOLLOW-UP

Postoperative course was uneventful and the patient was discharged home. During follow-up the patient had no complaints and is doing well.

DISCUSSION

Epidermoid cysts of the caecum are extremely rare; however, similar cysts of internal organs have been reported involving the testis, epididymis, spleen, accessory spleen, kidney and liver.⁷ The histogenesis of epidermoid cyst is unknown. These cysts are generally accepted to be sequestration cysts that may be either congenital or acquired.⁸ The congenital variety is related to

inclusion of ectodermal elements at time of closure of neural groove or when epithelial surfaces fuse. Acquired cysts are due to trauma or iatrogenic implantation of epidermis in locations favourable to growth during surgery.²

Three of the earlier reported cases of epidermoid cyst of the caecum are of acquired variety. First case reported in 1961 was of a 22-year-old woman who had undergone appendectomy, 12 years back, and came for evaluation of lower abdominal mass. On laparotomy, a mass located in the mesentery at the ileocaecal angle inseparable from the wall of the caecum was found and right hemicolectomy was performed.¹ The second case was a 71-year-old man with a history of appendectomy, 16 years back, got admitted with complaint of bleeding per rectum. Barium enema x-ray showed a smooth defect in the medial wall of the caecum below the ileocaecal valve. A 6 cm mass was found within the wall of the caecum which was resected locally.² Third case was a 31-year-old woman, with a previous caesarean surgery, who got admitted for an adnexal mass. On exploration, the uterus and ovaries were normal. On the posterior surface of the caecum, an 8×4 cm semisolid mass, located

Figure 2 Diagnostic lap picture of caecal epidermoid cyst.

Figure 3 Epidermoid cyst dissected free of the caecum.

Figure 4 Greyish white cheesy material coming out of the cyst.

approximately 4 cm distal to the appendix, was identified. There was no visible connection between the mass and the lumen of the caecum. After exploration, the mass was removed by a blunt-and-sharp dissection.³

There are four cases of congenital variety of epidermoid cyst reported till now. The first case was a 27-year-old woman who had been complaining of intermittent pain in the right lower abdominal quadrant for 1 year. However, while the initial diagnosis was chronic appendicitis, during the operation, the appendix was determined as normal. During the follow-up period, abdominal pain persisted and a right ovarian cyst was identified on x-ray. She was then operated for the second time with a suspected diagnosis of ovarian torsion. On exploration, both the ovaries were found normal, but a cystic mass was observed on the surface of the caecum and extracted. On histopathological examination, it was reported as an epidermoid cyst, which was suggested to have developed from an embryonal anlage of squamous epithelium displaced in the caecum.⁶ Another case was an 8-year-old girl who presented with abdominal pain. She had no previous operation history, and represents the only paediatric case in the literature.⁴

The last two cases were elderly men with no operation history. Although undescended testis was thought to be an aetiological factor in these cases, this opinion was excluded clinically and radiologically. These cysts were probably due to an aberrant embryogenic ectodermal implantation during embryogenesis.^{5 7}

In our patient, the congenital epidermoid cyst of the caecum may have taken origin where the caecum re-enters the abdominal cavity as the last part of the gut in the process of intrauterine rotation.⁹ Any inclusion or closure line of epidermal or dermal structures may result in later development of these cysts. Also, the fact that most occur in a subserosal location in the caecum also supports this concept.⁴

Learning points

- ▶ Even though pure congenital epidermoid cysts of the caecum are rare they should be considered in the differential diagnosis of cysts within abdomen.
- ▶ As this is a rare disease, even the investigations can be misleading.
- ▶ Laparoscopy can be both diagnostic and therapeutic in case of confusion.
- ▶ Keeping this rarer diagnosis in mind while dealing with such a presentation can avoid radical surgical options.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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