
CASE REPORT

Mature Cystic Teratoma Eroding into the Colon

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ABSTRACT

Mature cystic teratoma is the most common type of ovarian germ cell tumour. It is usually asymptomatic and slow growing until it manifests with torsion, infection, or spontaneous rupture. We report a case of ovarian teratoma eroding into the sigmoid colon with consequent per-rectal bleeding.

Key Words: Colon, sigmoid; Dermoid cyst; Gastrointestinal hemorrhage

中文摘要

侵蝕結腸的成熟囊性畸胎瘤

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成熟囊性畸胎瘤是卵巢生殖細胞腫瘤最常見的類型。它通常無症狀和緩慢生長，直到它表現出扭轉、感染或自發性破裂。本文報告一例卵巢畸胎瘤侵蝕乙狀結腸並導致直腸出血。

INTRODUCTION

Mature cystic teratoma or dermoid cyst is the most common type of ovarian germ cell tumour, accounting for 10% to 20% of all ovarian neoplasms. It may remain asymptomatic until it manifests with acute abdomen torsion or infection. It is usually benign and rarely involves surrounding organs. We report a case of ovarian teratoma eroding into the sigmoid colon with consequent per-rectal bleeding.

CASE REPORT

In December 2014, a 47-year-old woman presented to Queen Elizabeth Hospital with fresh per-rectal bleeding and lower abdominal pain. She had undergone

laparoscopic left salpingo-oophorectomy and right partial ovarian cystectomy for bilateral ovarian dermoid cysts 16 years earlier.

Magnetic resonance imaging (MRI) of the pelvis showed a lesion with heterogeneous fat intensity and tooth-like hypointensity in the sigmoid colon abutting the uterus (Figure 1). Colonoscopy revealed a polypoid mass with three hard lesions (Figure 2). Biopsy was not performed because of concerns about possible bowel perforation and secondary peritonitis. Computed tomography (CT) of the pelvis showed three calcified lesions inside the lumen of the sigmoid-descending colon junction, with a normal right ovary separable

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from the lesions (Figure 3).

The patient underwent en bloc resection of the sigmoid colon and right ovary. The sigmoid colon was acutely kinked and wrapped around and tightly adhered to the right ovary. Primary anastomosis of the large bowel was performed. Microscopy confirmed the polypoid colonic mass comprising tooth, epidermis, sebaceous gland, and adipose tissue, with no immature components or malignancy.

DISCUSSION

Ovarian dermoid cysts that perforate the bowel may

result in hairy stools, acute abdominal pain, and per-rectal bleeding.^{1,2} In our patient, iatrogenic rupture of ovarian cyst during previous cystectomy was the likely cause of the dermoid cyst eroding into the colon, leading to intra-abdominal spillage of tumour contents. It then caused chemical peritonitis, resulting in an inflammatory reaction and adhesion to surrounding structures and erosion into the colon. Spillage of tumour contents into other abdominal organs such as the urinary bladder, bowel, and abdominal wall has been reported.^{3,4}

Differential diagnoses of dermoid cyst eroding into the colon include inflammatory bowel disease, malignant



Figure 1. T1-weighted magnetic resonance imaging showing a lesion with heterogeneous fat density (arrow) and tooth-like hypointensity (arrowhead) in the sigmoid colon abutting the uterus.



Figure 2. Colonoscopy showing a polypoid mass with three hard lesions.

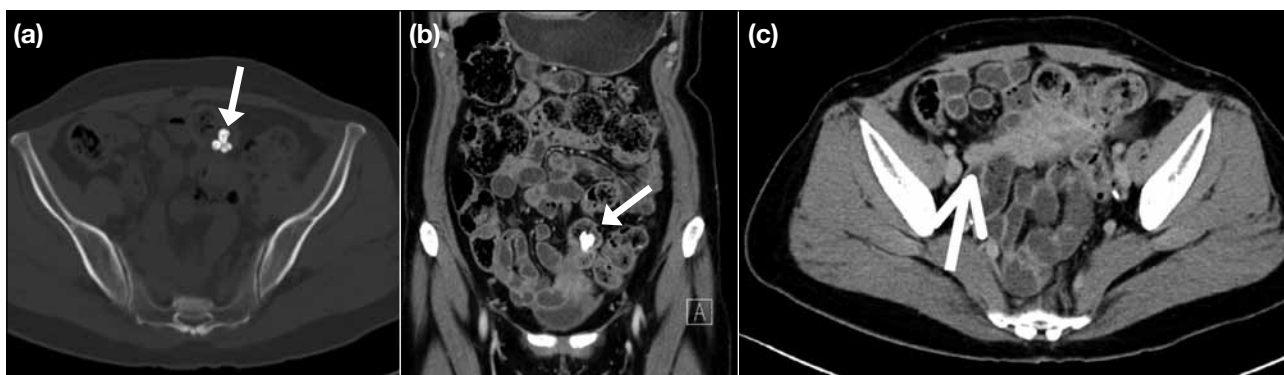


Figure 3. Computed tomography of the pelvis showing (a) three calcified lesions inside the lumen of the sigmoid-descending colon junction (arrow), (b) the lesions within the colon (arrow) in a multiplanar reformatted image, and (c) the normal right ovary (arrow) separable from the lesions.

neoplasm, prior radiation, tubo-ovarian abscess, diverticulitis, granulomatous diseases, tuberculosis, and amoebiasis.⁵

Spontaneous rupture of a dermoid cyst is rare due to its thick wall. The major complications of dermoid cysts include torsion, rupture, infection, and malignant change.⁶ Torsion is most common, accounting for 16% of cases; spontaneous rupture occurs in only 0.7% to 1.3% of cases.^{6,7} Even when the dermoid cyst is ruptured, inflammation and erosion into the bowel are rare. About 55 cases of primary rectal teratoma have been reported worldwide,⁸ whereas only about 11 cases of secondary involvement due to direct invasion by primary ovarian teratoma have been reported.⁹ In our patient, although the primary ovarian teratoma had been resected 16 years earlier, there was still development of a secondary lesion in the colon. This supports the hypothesis of tumour spillage during previous cystectomy rather than direct tumour invasion from residual tumour.

MRI and CT are useful in diagnosis and surgical planning. T1-weighted MRI showed a heterogeneous lesion with hyperintense fat signals and non-enhancing calcifications with low signal intensity. CT showed the

tooth-like calcifications and their constant relationship with the bowel wall. Coronal and sagittal reformatted images revealed the anatomical relationship of the lesion with adjacent organs.

REFERENCES

1. Goldenberg NJ. Dermoid perforation of the colon. *Gastrointest Radiol.* 1978;3:221-2. [crossref](#)
2. Shiels WE, Dueno F, Hernandez E. Ovarian dermoid cyst complicated by an entero-ovarian fistula. *Radiology.* 1986;160:443-4. [crossref](#)
3. Pantoja E, Noy MA, Axtmayer RW, Colon FE, Pelegrina I. Ovarian dermoids and their complications. *Comprehensive historical review. Obstet Gynecol Surv.* 1975;30:1-20. [crossref](#)
4. Rahmati A, Shakeri R, Aminimoghaddam S, Ajhdarkosh H. *Photoclinic. Arch Iran Med.* 2013;16:691-2.
5. Eisenberg RL. *Gastrointestinal radiology: a pattern approach.* Philadelphia: Lippincott Williams & Wilkins; 2003. p 929-45.
6. Peterson WF, Prevost EC, Edmunds FT, Hundley JM Jr, Morris FK. Benign cystic teratomas of the ovary: a clinico-statistical study of 1,007 cases with a review of the literature. *Am J Obstet Gynecol.* 1955;70:368-82. [crossref](#)
7. Stern JL, Buscema J, Rosenshein NB, Woodruff JD. Spontaneous rupture of benign cystic teratomas. *Obstet Gynecol.* 1981;57:363-6.
8. Park HS, Hong SG, Jung SY, Kang SM, Lee K, Yu DW. A case of primary mature teratoma of the rectum. *Soonchunhyang Med Sci.* 2014;20:27-30. [crossref](#)
9. Federico A, Gravina AG, Tiso A, Miranda A, D'Armiento FP, Mascolo M, et al. Endoscopic diagnosis of secondary rectal teratoma in a young woman with constipation and positive fecal occult blood test. *Endoscopy.* 2010;42(Suppl 2):E254-5. [crossref](#)