

Dermoid cyst of the cecum: case report

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Background: Dermoid cyst, also known as mature teratoma is a benign neoplasia of germ cells and usually is seen in female or male gonads (ovary or testis). Beside gonads, dermoid cysts sometimes are seen in midline of the body such as sacrocoxygeal area in children or mediastinum, but it is very rare in gastrointestinal tract. The origin of all teratomas (either mature as benign or immature as malignant) is germ cells which are derived from the primary yolk sac in 3rd week of gestation and migrate to primitive sex cord via primary GI tract and dorsal mesentery. Gastrointestinal tract is an unusual site for dermoid cyst to occur. To the best of our knowledge only five cecal dermoid cysts have been reported in the English medical literature since now. We report a dermoid cyst in the cecum of 41 years-old female, causing diagnostic confusion with ovarian tumor

Key words: Dermoid cyst. Mature teratoma, cecum.

Background

Dermoid cyst of the cecum is rarely reported in surgical literature. Up to now, only 5 cases are reported and the case reported below is most probably the 6th case reported till now

Case report

An otherwise healthy 41-year-old gravid 3 para 3 married female presented with 3 years history of intermittent abdominal pain, abdominal heaviness and feeling a movable intra-abdominal mass. There was no history of weight loss, changes in menstruation or gastrointestinal symptoms. Past medical, surgical and family histories were negative. On physical examination she was in good health condition. On abdominal examination there was a movable non-tender mass in the right lower quadrant extending to pelvis. Complete blood count and serum biochemistry for renal and liver functions, serum beta HCG, CEA and AFP were

within normal ranges (Table 1). Abdominal and pelvic ultrasonography and computerized tomography scan revealed a 10 x 10 cm pelvic mass in vicinity of the right ovary (Fig 1 A, B)

A decision for exploratory laparotomy was made and a midline celiotomy was performed to reveal a large freely movable mass attached to the cecal wall. Other abdominal organs, uterus, bilateral ovaries, omentum and peritoneal surfaces were unremarkable (Fig 2).

The mass and the attached cecum were resected and a Mikulicz colostomy was performed. Pathologic examination showed a cyst filled with keratin and lined by benign squamous lining, attached to the cecal muscularis propria (Fig 3 A, B, C, D, E). Colostomy was closed in post-operative week four. Intra- and post-operative periods were uneventful. Patient remained in good conditions in post-operative examinations.

Table of lab data

Lab Data	Results
Hb	12.6
Hct	38.1
mcv	89
BUN	11
Cr	0.3
Beta HCG	6.5
CEA	0.4
Alfa feto protein	<0.3ng/ml

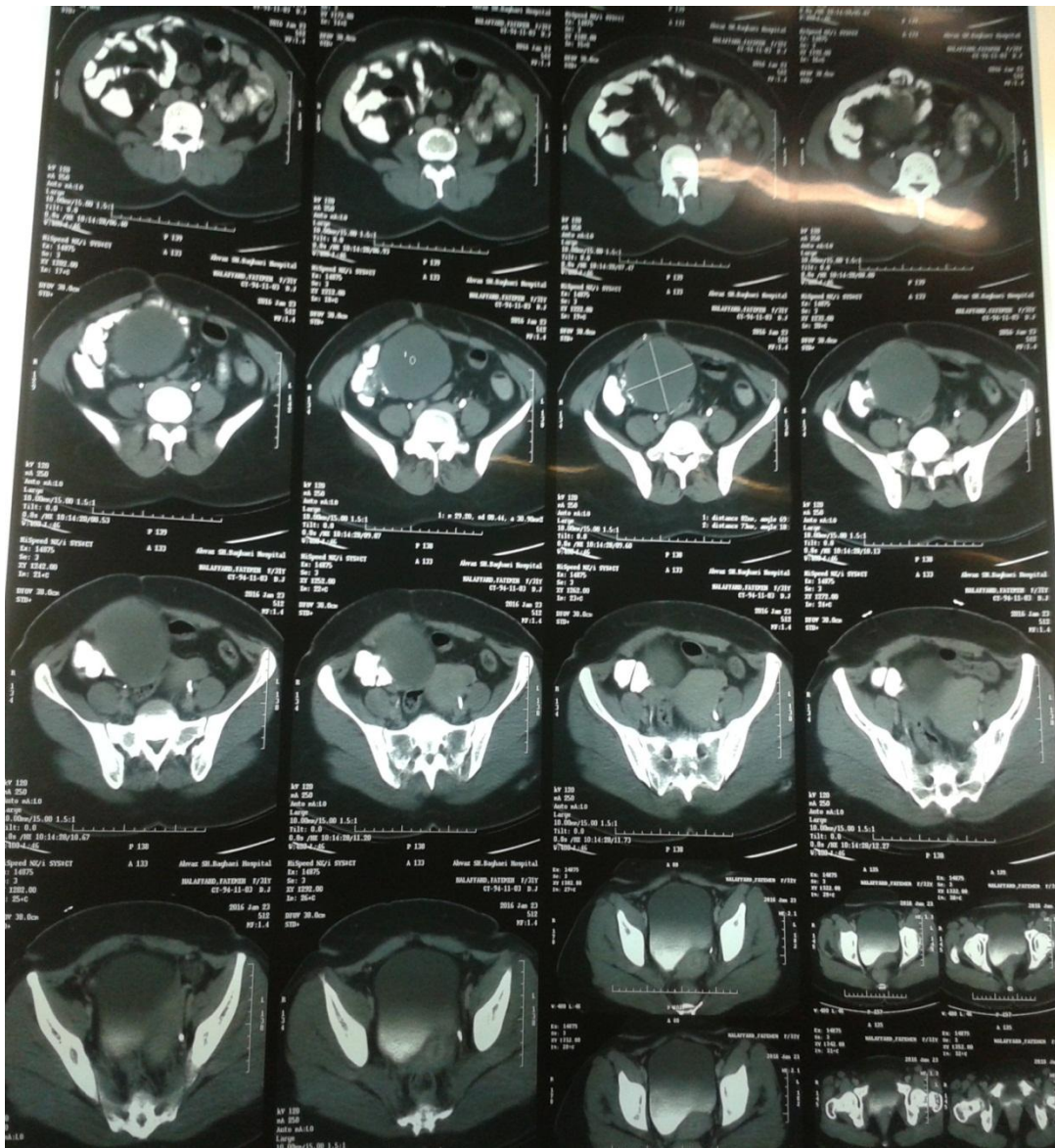


Figure 1. Abdominal CT scan, showing right side cystic mass



Figure 2.tumor removed with safe margine



Figure3.A.squamous epithelial lining of the cyst ; representative of dermoidccyst



Figure3.B. Keratinized layer

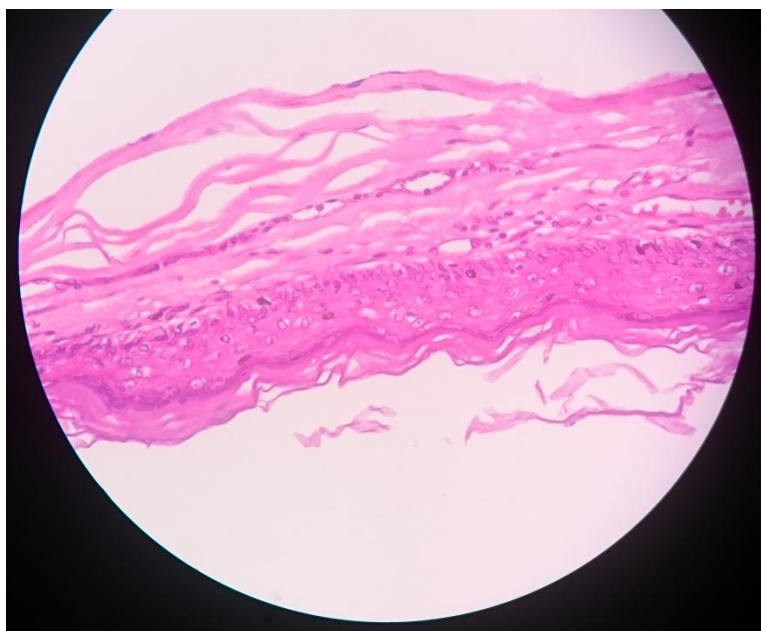


Figure3 C.KERATIN WITHIN THE CYST

DISCUSSION

Dermoid cyst is a benign cystic germ cell neoplasm usually consists of mature ectodermal

or mesodermal tissues such as skin, neural tissue, tooth, fat, glandular epithelium, etc (1) . They occur in ovaries or testis. Midline tumors in

mediastinum or sacrocoxygeal region are less common, mostly seen in infants and children (2).

Germ cell neoplasms(also called teratoma) arise from embryonal non-mortal germ cells which originate in the yolk sac during third week of gestation(3). These cells migrate to the primitive sex cords and eventually reach the gonads and stay there for life time to form spermatozoa and ovum(4). Germ cells are not the same as stem cells because of differences in their origins and capabilities(4).

Germ cells are the only cells in human body that can undergo meiotic division and form haploid cells (cells with 23 chromosomes)(5). Nonetheless neoplastic germ cells are diploid (46 chromosome) and are capable of forming all tissues from three embryonic layers and even complete fetus(4). Benign gastrointestinal germ cell tumor or dermoid cyst is rarely reported in midgut as unilocular cysts in female gender between 1 and 50 years of age(5,6,7). To the best of our knowledge five cases of cecaldermoid cysts have been reported in the English literature(12), one of which was associated with intestinal duplication anomaly(11). The most common presentation of cecaldermoid cyst is vague abdominal pain and discomfort(9). It can be mistaken with ovarian or liver mass because of their vicinity to these organs(10). Mechanical intestinal obstruction or lower GI bleeding can also be expected. With correct pre-operative or intra-operative diagnosis, and proper bowel preparation, treatment of choice

would be segmental resection of the cecum and primary end-to-end or end to side ilio-colic anastomosis with excellent prognosis(8,12).

References

1. Twyman R.M. (2001). *Developmental biology*. Oxford, Bios Scientific Publishers, 451p
2. Alberts B, Johnson A, Lewis J, et al. (2002). "Primordial Germ Cells and Sex Determination in Mammals". *Molecular Biology of the Cell*. 4th edition.
3. Am J SurgPathol 2003 May;27(5):650-7.
4. Kumar V, Abbas AK, Fausto N. *Robbins and Cotran Pathologic Basis of Disease*. Philadelphia: Elsevier Saunders; 2005. 7th ed
5. Schropp KP, Lobe TE, Rao B, et al. Sacrococcygealteratoma: the experience of four decades. *J Pediatr Surg*. 1992 Aug. 27(8):1075-8; discussion 1078-9. [Medline].
6. Lewis BD, Hurt RD, Payne WS, Farrow GM, Knapp RH, Muhm JR. Benign teratomas of the mediastinum. *JThoracCardiovasc Surg*. 1983 Nov. 86(5):727-31. [Medline].
7. Hedrick HL, Flake AW, Crombleholme TM, et al. Sacrococcygealteratoma: prenatal assessment, fetal intervention, and outcome. *J Pediatr Surg*. 2004 Mar. 39(3):430-8; discussion 430-8. [Medline].
8. Dulmet EM, Macchiarini P, Suc B, Verley JM. Germ cell tumors of the mediastinum. A 30-year experience. *Cancer*. 1993 Sep 15. 72(6):1894-901. [Medline]
9. Herr HW, LaQuaglia MP. Management of teratoma. *UrolClin North Am*. 1993 Feb. 20(1):145-52.[Medline].
10. Patel MD, Feldstein VA, Lipson SD, Chen DC, Filly RA. Cystic teratomas of the ovary: diagnostic value of sonography. *AJR Am J Roentgenol*. 1998 Oct. 171(4):1061-5. [Medline].
11. Ross JH, Kay R. Prepubertal testis tumors. *Rev Urol*. 2004 Winter. 6(1):11-8. [Medline]
12. Chieffi P, Chieffi S. An up-date on newly discovered immunohistochemical biomarkers for the diagnosis of human testicular germ cell tumors. *HistolHistopathol*. 2014 Aug. 29(8):999-1006. [Medline].