

# Teratoma of Sigmoid Colon Mimicking Ovarian Cystic Lesion: Case Report

## Over Kistik Lezyonunu Taklit Eden Sigmoid Kolon Teratomu

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**ABSTRACT** Teratoma is a germ cell tumor and usually consists of three germ layers. Teratomas are mostly located in the gonads and occurrence of teratoma in extragonadal sites is rare. Gastrointestinal tract, particularly colon, is an unusual extragonadal site for teratomas. Extragonadal teratomas arise from totipotent cells in sequestered primitive cell rests. Teratoma cannot be diagnosed on the basis of clinical findings alone, since the histopathologic confirmation is necessary. Cystic teratomas, located in the wall of colon can easily mimic ovarian lesions on radiologic examination. In this case report, we aimed to describe the histopathological findings of an unusual case of mature teratoma in the wall of sigmoid colon which was mimicking an ovarian cystic lesion on radiologic examination.

**Key Words:** Teratoma; colon, sigmoid; pathology

**ÖZET** Teratom bir germ hücreli tümördür ve genellikle üç germ tabakasından oluşur. Teratomlar çoğunlukla gonadlarda yer alırlar ve ekstragonadal bölgelerde teratom oluşumu nadir görülen bir durumdur. Gastrointestinal sistem, özellikle de kolon, teratom oluşumu için alışılmadık bir ekstragonadal bölgedir. Ekstragonadal teratomlar ayrılmış primitif hücre serilerindeki totipotent hücrelerden köken alırlar. Teratom tanısı klinik bulgulara dayandırılmaz, aynı zamanda histopatolojik inceleme de gereklidir. Kolon duvarında yerleşik kistik teratomlar radyolojik muayenede over lezyonlarını taklit edebilir. Bu yazıda radyolojik incelemede over kistini taklit eden ve nadir bir lokalizasyon olarak sigmoid kolon duvarında yerleşim gösteren matür bir teratomun histopatolojik bulgularını tanımlamak amaçlanmıştır.

**Anahtar Kelimeler:** Teratom; kolon, sigmoid; patoloji

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Teratomas are divided into three categories: Mature, immature and monodermal. Most benign teratomas exhibit a cystic growth pattern.<sup>1</sup> Teratomas are mostly located in the gonads whereas large bowel is an extremely rare extragonadal site.<sup>2-4</sup> In this case report, a 56-year-old female patient with mature teratoma in the wall of sigmoid colon who had undergone exploratory laparotomy for a cystic mass, which was thought to a left ovarian mass before the operation is presented.

### CASE REPORT

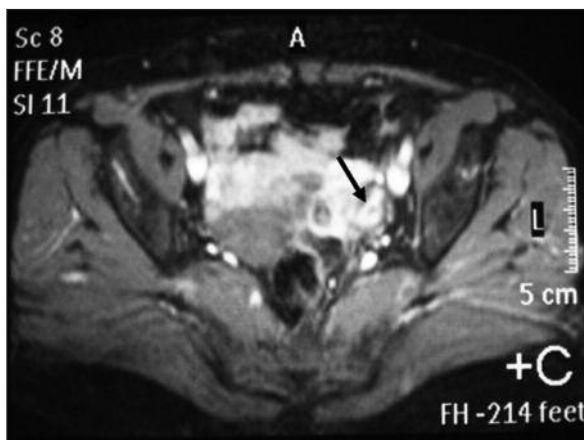
A 56-year-old female patient was admitted to hospital with groin pain and abdominal distention. Transvaginal ultrasonography (USG) revealed a mass

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with solid and cystic components in the left adnexal area, which was thought to be an ovarian tumor. After ultrasonography (USG), lower abdominal magnetic resonance imaging (MRI) confirmed the presence of a solid and cystic mass in the same localization (Figure 1). The mass was measured 5x3 cm in MRI. Patient had undergone exploratory laparotomy. During surgery, it the mass was seen to be located in the wall of sigmoid colon and not associated with the ovary. The mass was excised with segmentary sigmoid colon resection and sent to the department of pathology for histopathologic examination.

In gross examination, a polypoid mass was detected in the wall of sigmoid colon which was protruding to both mucosal and serosal surfaces. Its diameters were measured as 3x3x3.5 cm. The cut surface of the mass consisted of solid and cystic areas with the areas of hemorrhage (Figure 2). Histopathologic examination of the lesion revealed components derived from all three germ cell layers (Figures 3, 4). The ectodermal component was represented by keratinizing stratified squamous epithelium, sebaceous glands and hair follicles. Endodermal and mesodermal components were adipose tissue, hyaline cartilage, bone, sweat glands, ciliated columnar epithelium, smooth muscle and blood vessels. The relationship of the lesion with colon mucosa is demonstrated in Figure 5. With these findings, the case was diagnosed as mature cystic teratoma of the sigmoid colon.



**FIGURE 1:** Lower abdominal magnetic resonance imaging showing a mass with cystic component in the left adnexal area (arrow).



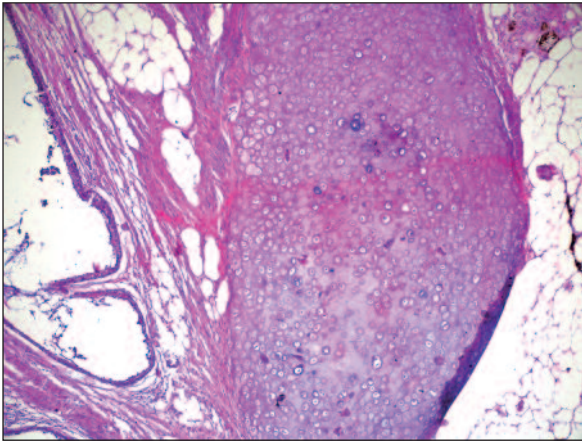
**FIGURE 2:** Macroscopic appearance of the polypoid lesion. (See for colored from <http://tipbilimleri.turkiyeklinikleri.com>)



**FIGURE 3:** Full scanning microscopic appearance of the lesion including stratified squamous epithelium, sebaceous glands, hyaline cartilage and ciliated columnar epithelium (HE, x10). (See for colored from <http://tipbilimleri.turkiyeklinikleri.com>)

## DISCUSSION

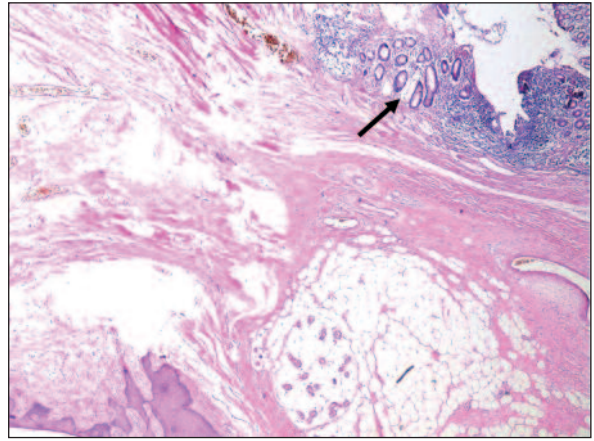
Teratomas are neoplasms comprising of cell types representative of more than one germ cell layer, usually all three layers.<sup>1</sup> Teratomas derive from totipotential cells which have the capacity to differentiate into elements of the three germ layers; ectoderm, mesoderm and endoderm.<sup>2,3</sup> Teratomas may be solid or cystic, but most benign teratomas are cystic. They are classified into mature, immature and monodermal types. Immature teratomas are rare malign neoplasms that demonstrate incomplete differentiation.<sup>1,4</sup>



**FIGURE 4:** Hyaline cartilage and adjacent ciliated colonic epithelium (HE, x100). (See for colored from <http://tipbilimleri.turkiyeklinikleri.com/>)

Teratomas usually affect the gonads. However, occurrence of a teratoma in an extragonadal site is rare.<sup>2-4</sup> Extragonadal teratomas mostly involve the retroperitoneum, mediastinum and sacrococcygeal region.<sup>4,5</sup> Teratomas of the gastrointestinal tract are uncommon and involvement of the large bowel is an extremely rare condition. The teratomas have been encountered in stomach, colon, cecum and rectum.<sup>6-11</sup> Most teratomas encountered within the gastrointestinal tract arise within the intestinal wall, in the muscularis layer or the submucosal layer.<sup>10</sup> In our case, teratoma was demonstrated as a polypoid mass in the wall of sigmoid colon, protruding to both serosal and mucosal surfaces.

Different explanations have been made for the origin of this tumor. Teratomas arise from germ cells, embryonic cells or extra-embryonic cells.<sup>7</sup> During embryogenesis, germ cells migrate in a path from the endoderm of yolk sac to the dorsal mesentery of the hindgut, and rests of totipotent cells may theoretically become sequestered along this path.<sup>8</sup> This process may explain the more common occurrence of teratomas in the gonads and presacral region, in addition to those arising along the distal gastrointestinal tract.<sup>11</sup>



**FIGURE 5:** The relationship of the lesion with overlying colon mucosa (arrow) (HE, x40). (See for colored from <http://tipbilimleri.turkiyeklinikleri.com/>)

Imaging methods, particularly USG and pelvic MRI imaging are important for the diagnosis of lower abdominal lesions.<sup>7-9</sup> In our case, mature cystic teratoma exhibited a polypoid and cystic growth pattern, which had led to the confusion of the mass with a possible left ovarian cystic lesion on radiologic examination. The superposition of the lesion over left ovary may be the reason of this confusion.

Gastrointestinal polyps are usually classified as neoplastic and non-neoplastic polyps. Neoplastic polyps are adenomas, carcinomas, lymphomas, gastrointestinal stromal tumors, leiomyomas and lipomas. Non-neoplastic polyps include hyperplastic polyps, hamartomatous polyps and inflammatory polyps. Teratomas are properly assigned to the group of neoplastic polyps because of their capability for developing malignancy.<sup>9,10</sup>

In conclusion, teratoma cannot be diagnosed on the basis of clinical findings alone, since the histopathologic confirmation is necessary. In addition, physicians should keep in mind that mature cystic teratomas located in the intestinal wall can easily mimic a cystic ovarian lesion on radiologic examination, as in our case. Finally, the prognosis for mature teratoma is excellent since local resection is curative for the tumors arising in the colon.

## REFERENCES

1. Stricker TP, Kumar V. Neoplasia. In: Kumar V, Abbas AK, Fausto N, Aster JC, eds. *Robbins and Cotran Pathologic Basis of Disease*. 8<sup>th</sup> ed. Philadelphia: Elsevier Saunders; 2010. p.261-2.
2. Schuetz MJ 3rd, Elsheikh TM. Dermoid cyst (mature cystic teratoma) of the cecum. Histologic and cytologic features with review of the literature. *Arch Pathol Lab Med* 2002;126(1): 97-9.
3. Fujita K, Akiyama N, Ishizaki M, Tanaka S, Ohsawa K, Sugiyama H, et al. Dermoid cyst of the colon. *Dig Surg* 2001;18(4):335-7.
4. Dehner LP. Gonadal and extragonadal germ cell neoplasia of childhood. *Hum Pathol* 1983;14(6):493-511.
5. Balcı AE, Eren Ş, Eren N. [Primary mediastinal tumors and cysts in adults:clinical evaluation of 61 cases and surgical results]. *Turkiye Klinikleri J Med Sci* 2003;23(1):33-7.
6. Nirenberg A, Buxton NJ, Kubacz GJ. Dermoid cyst of the caecum: case report. *Pathology* 2001;33(2):246-7.
7. Kumar B, Kumar M, Sen R, Anchal N. Mature solid teratoma of the rectum: report of a case. *Surg Today* 2008;38(12):1133-6.
8. Dhebri AR, Afify SE. Unusual pathology of colon: inclusion dermoid cyst. *Eur J Gastroenterol Hepatol* 2004;16(2):233-4.
9. Dutz W, Sadeghee S. A teratoid finger in the sigmoid colon. *J Pathol Bacteriol* 1968;95(1): 289-91.
10. Mauer K, Wayne JD, Lewis BS, Szporn AH. The hairy polyp: a benign teratoma of the colon. *Endoscopy* 1989;21(3):148-51.
11. Shah RS, Kaddu SJ, Kirtane JM. Benign mature teratoma of the large bowel: a case report. *J Pediatr Surg* 1996;31(5):701-2.