

A case of primary rectal teratoma

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Dear Editor,

Teratomas are germ cell tumors commonly composed of multiple cell types derived from one or more of the three germ layers: ectoderm, mesoderm, and endoderm.

Here we present the case of a 47-year-old Uyghur woman who was admitted to our hospital with bleeding from the rectum for 10 days and a 20-year history of an intermittent sensation that something was falling out of her rectum. She had an excrescence from rectum during def-

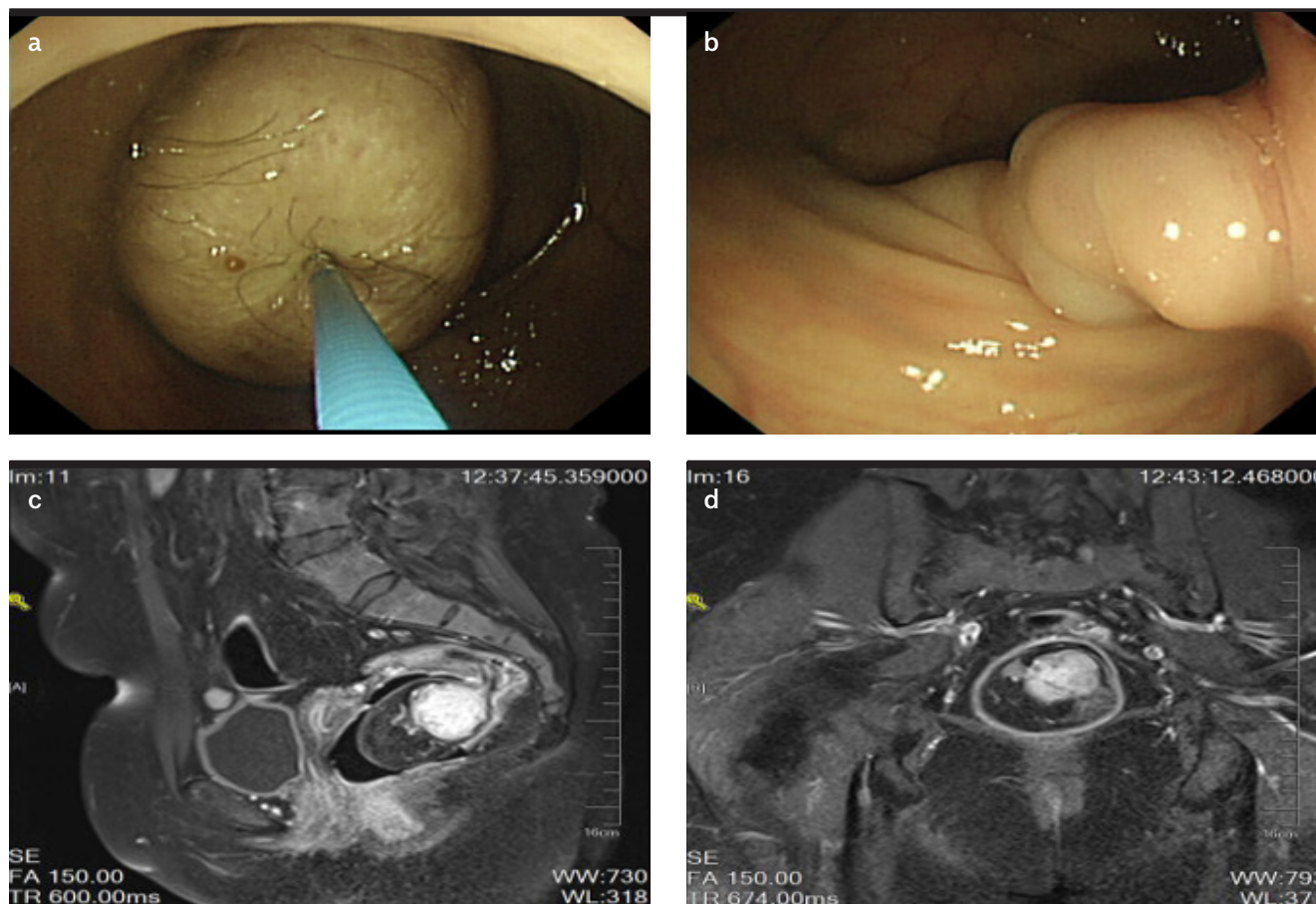


Figure 1. a-d. Endoscopic and imaging findings of the rectal mass. (a) and (b) showing endoscopic view of the rectal mass; Sagittal (c) and coronal (d) a fat-saturated T1-weighted sequence MR images show that the mass was limited to the rectum.

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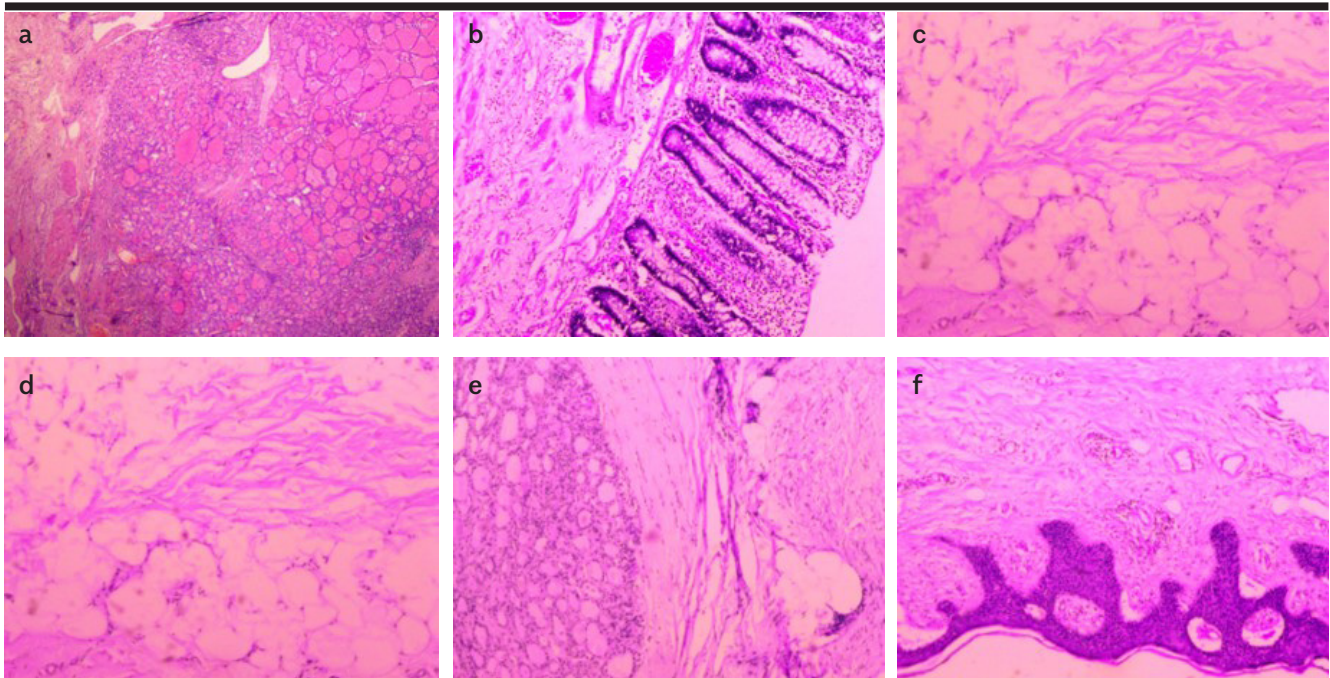


Figure 2. a-f. Macroscopic and microscopic findings of surgical specimens of rectal masses (H&E, x40). A showing cut surface of the mass; Histology revealed the presence of mature elements including thyroid tissue (b), enteric mucosa (c), fat (d), fibrous tissue (e), skin (f).

ecation which retracted on its own. Unfortunately, she did not pay it much attention. These symptoms aggravated 10 days ago, with a small amount of blood discharge after the stools. She has no significant weight loss and no medical history. Laboratory tests showed that tumor markers alpha fetoprotein, carcinoembryonic antigen, and CA 19-9 were unremarkable. Physical examination was normal except for mild tenderness in lower abdomen. On rectal examination, a rectal mass was palpable; it was almost spherical and painless. A colonoscopy was subsequently performed. It revealed a pedunculated dermoid cyst approximately 5 cm from the anal verge and seemed to contain protruding hair (Fig 1a, b). Further assessment of the lesion was carried out using magnetic resonance imaging scan of the abdomen and pelvis to determine the size, location and any possible local invasion of the mass. Magnetic resonance imaging showed that the mass was limited to the rectum without any pelvic or ovarian connections (Fig 1c, d). After discussion in the multi-disciplinary team (including gastroenterologists, surgeons, and endoscopist), it was decided to proceed with a surgical intervention. A partial resection of the rectum was performed. The approximate size of the rectal surgical specimen was 7*6*4 cm. The cut surface of the mass was grayish yellow, and the envelope was intact (Fig 2a). Histological evaluation revealed the presence of mature el-

ements including thyroid tissue (Fig 2b), enteric mucosa (Fig 2c), fat (Fig 2d), fibrous tissue (Fig 2e), skin (Fig 2f), etc. No malignant features were found. The pathological diagnosis was mature teratoma of the rectum. Subsequently, the patient has been asymptomatic on a 2-year follow-up.

Teratomas are generally described as either mature or immature. Mature cystic teratomas are also called dermoid cysts, and 90%-95% are benign. They are more common in women and adolescents (1). They typically form in the ovary, testicle, tailbone, retroperitoneum, or mediastinum and less commonly in other areas.

Primary rectal teratomas are rare, and only less than 100 cases have been reported to date in the literature (2). Symptoms are usually caused by the prolapse of the mass or hematochezia. It is hypothesized that primordial germ cells are observed at 3 to 4 weeks of gestation in the endoderm of the umbilical vesicle and move from the dorsal mesentery of the hindgut through the mesenchyme toward the gonadal ridge (3). As the rectum is the adjoining structure, the germ cells may enter the rectum aberrantly. Then cells differentiate along various germ lines, essentially recapitulating any tissue of the body, including hair, teeth, fat, skin, muscle, and endocrine tissue

(2). The diagnosis can be made with endoscopy alone by the presence of hair over the mass. However, the differential diagnosis of a submucosal tumor would be considered if hair is not present.

Most primary rectal teratomas are pedunculated and benign and are suitable for endoscopic removal or transanal microscopic surgery (4). It is worth mentioning that it is important to differentiate between a primary rectal teratoma and a teratoma arising primarily from an adjacent organ and eroding into the rectal lumen. The formation of fistulas and invasion into the rectum are extremely rare complications for ovarian mature cystic teratomas. To date, only six cases of colorectal involvement of mature cystic teratomas of the ovary have been reported in the literature (5). Surgical intervention is necessary when the formation of fistulas and invasion are observed.

Informed Consent: Informed consent was obtained from the patient who participated in this study.

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