LETTER TO THE EDITOR

Mature cystic teratoma of the testis with involvement of the complete colonic wall

Dear Editor,

Teratomas are germ-cell tumors commonly composed of more than one of the different embryonic germ cell layers. Testicular teratomas account for only 7% of testicular germ cell tumors in adults [1]. Simple cysts and mature cystic teratomas (dermoid cysts) are uncommon but uniformly benign and, thus, testicular preservation surgery can be implemented [2]. We report a rare case of mature cystic teratoma of the testis involving the complete colonic wall.

A 41-year-old man presented with a palpable, painless nodule on the right testis for one year. Physical examination revealed a local, nontender, immovable nodule with firm consistency. Testicular ultrasonography revealed two heterogeneous hypoechoic nodules, which were avascular on color imaging (Fig. 1A). Test results for tumor markers including α-fetoprotein and prostate specific antigen and those for β-human chorionic gonadotropin and lactate dehydrogenase were negative.

Magnetic resonance imaging revealed a lobulated nodule with mixed low- and high-signal intensity on T1- and T2-weighted images of the right testis (Fig. 1B). On intravenous contrast medium administration, the nodule was slightly more enhanced. Based on the magnetic resonance imaging findings, possible diagnoses were teratoma, granuloma, and atypical epidermoid cyst.

We enucleated the testicular mass via a transinguinal incision while preserving the healthy testicular parenchyma. We found a yellowish, soft tumor over the lower region of the right testis (Fig. 1C). Pathologically, the tumor had a mucus-secreting goblet-cell-like epithelial lining, a smooth muscle layer, focal calcification, and extracellular mucin accumulation (Fig. 1D). These findings were compatible with a diagnosis of mature cystic teratoma of the testis involving the complete colonic wall. After surgery, the patient recovered uneventfully. He was asymptomatic with no recurrent lesion at the 1-year follow-up examination.

Mature teratoma of the testis accounts for 5–10% of testicular teratoma [2]. Mature cystic teratoma presents as an apparently benign testicular tumor, because no malignant degeneration has been reported [2]. It consists of well-differentiated, mature tissue derived from the three embryonic layers.

The complete intestinal wall is rarely involved in mature cystic teratoma. Fujiwara et al. [3] reported two cases of mature cystic teratoma of the ovary involving the complete intestinal wall. Cheung [4] reported a case of colonic-type adenocarcinoma, resulting in a primary retroperitoneal mature cystic teratoma. In our patient, histopathological findings indicated the presence of a typical colonic wall (CK20 positive and CK7 negative). To our knowledge, this is the first documented case in which the complete colonic wall was involved in a mature cystic teratoma of the testis. Surgery was performed for preservation of healthy testicular parenchyma.

In conclusion, mature cystic teratomas of the testis rarely contain intestinal-type tissues, and these very rarely organize into complete colonic walls or develop secondary neoplasms. This important but relatively uncommon diagnosis may save patient follow-up, imaging, and testicular preserving surgery. Surgical enucleation of the testicular mass with preservation of the testicular parenchyma is the preferred treatment when considering the reproductive, psychological, and hormonal system health in male patients. However, orchiectomy should be considered if evidence of malignancy is present or if the mass occupies the entire testis.
Reference


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Figure 1. (A) Testicular ultrasonography reveals two heterogeneous and hypoechoic nodules, approximately 1.2 cm × 1.1 cm and 1.0 cm × 0.6 cm in size, with a few calcified spots in the right testis (white arrow); (B) T2-weighted magnetic resonance imaging shows a lobulated nodule, approximately 1.8 cm × 1.4 cm in size, over the lower region of the right testis; (C) a cystic tumor of testis, measuring approximately 2.5 cm × 1.7 cm × 1.0 cm in size, with central hemorrhage and necrosis; (D) histopathology reveals that the cystic tumor contains mucus-secreting goblet cell-like epithelial lining (hematoxylin and eosin staining, 100×).