

Case Report

Cytologic Findings of Urogenital Mesenteric Cyst

Maral Mokhtari MD¹, Perikala Vijayananda Kumar MD¹**Abstract**

Mesenteric cysts are heterogeneous groups of lesions. Most of them are developmental cysts of lymphatic and enteric origin or cystic neoplasm such as mesothelioma or cystic teratoma. Urogenital cysts are a subcategory of developmental cysts of the mesentery. They are thought to arise from vestigial remnants of urogenital apparatus. These cysts may show evidence of mesonephric or metanephric differentiation.

An 11-year-old boy was presented with undescended testis. During preoperative work-up, an incidental cystic lesion was discovered which was attached to the ileum. Aspiration cytology of the cyst content revealed cuboidal to columnar cells; some of them were ciliated. Histologic examination showed a cyst with fibromuscular wall, lined by Mullerian type ciliated epithelium; so the diagnosis of urogenital mesenteric cyst of Mullerian type was made.

Urogenital cysts are rare lesions, but they should be considered in differential diagnosis of any cystic lesion of the mesentery. Cytology could be a useful method for evaluation and revealing the nature of these cysts.

Keywords: Aspiration cytology, Mullerian cyst, urogenital mesenteric cyst

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Introduction

Mesenteric cyst was first described by an Italian anatomist, Beneveni in 1507.^{1,2} The incidence of the lesion is about 1/100000 in adults and 1/20000 in children.^{3,4} Males and females are equally affected.⁴ They are heterogeneous groups of lesions. Most of them are developmental cysts of lymphatic and enteric origin or cystic neoplasm such as mesothelioma or cystic teratoma.^{1,5}

Urogenital cysts are a subcategory of developmental cysts of the mesentery. They are thought to arise from vestigial remnants of urogenital apparatus.⁵ We report the cytologic and histologic findings in a rare case of urogenital mesenteric cyst of Mullerian type.

Case Report

The patient was an 11-year-old boy who referred to the Urology Department of Faghihi Hospital affiliated to Shiraz University of Medical Sciences, with the chief complaint of left undescended testis. In preoperative abdominal ultrasonography, the left testis was identified near the left iliac vessels. Incidentally, an undulated cystic structure measuring 54 millimeters in greatest diameter was discovered (Figure 1). Abdominal computed tomography (CT) scan revealed a well-defined thin-walled cystic lesion, measuring 5 × 3 centimeters (cm) at the right lower quadrant. No solid component or septation was seen.

The patient underwent laparotomy. The peritoneum was entered. A cystic structure was identified adhering to the mesentery of ileum, proximal to the ileocecal valve. The cyst with a 10 cm seg-

ment of terminal ileum was resected and end-to-end anastomosis was done and also left side orchiopexy was performed, subsequently.

Macroscopically, the cyst was thin walled and unilocular with no solid component measuring 5 × 3 × 3 cm, filled with a clear serous fluid (Figure 2). The cyst content was aspirated and after centrifugation, some slides were prepared from the sediment and stained with Wright and Papanicolaou method. Cytology slides showed isolated and small clusters of cuboidal to columnar cells, some of them were ciliated admixed with red blood cells (Figure 3, A and B). Histologic examination revealed a cyst with a fibromuscular wall, covered by ciliated epithelium of Mullerian type (Figure 4A). The diagnosis of urogenital mesenteric cyst of Mullerian type was made.

Discussion

Mesenteric cysts are rare benign lesions that are categorized into four etiology groups: embryonic and developmental, neoplastic, traumatic and acquired, infective, and degenerative.^{1,3,5,7}

Developmental cysts of the mesentery comprise heterogeneous groups of lesions. They can be grouped into three categories: lymphatic, enteric, and urogenital cysts.⁵ Urogenital cysts are derived from remnants of embryonic urogenital apparatus.^{1,5,6} Other possible mechanism is differentiation of celomic epithelium or peritoneum into tubal type epithelium.⁸

Urogenital cysts can be further subdivided into pronephric, metanephric, Mullerian, and mesonephric variants based on their histology and anatomic location.^{1,5,6,8}

The patient with mesenteric cysts may be asymptomatic, or present with abdominal pain and distension or complications such as torsion, rupture, hemorrhage, and infections.⁸⁻¹¹

These cysts may be unilocular or multilocular.^{9,11} Cysts are commonly located within the mesentery of ileum, followed by omentum, mesocolon, and retroperitoneum.^{3,4,9,12} Mullerian cyst

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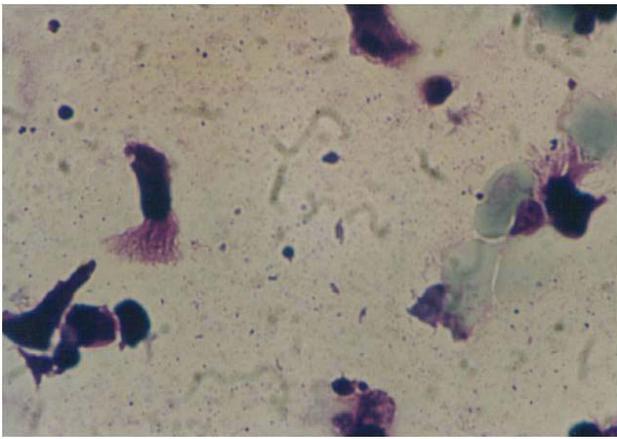
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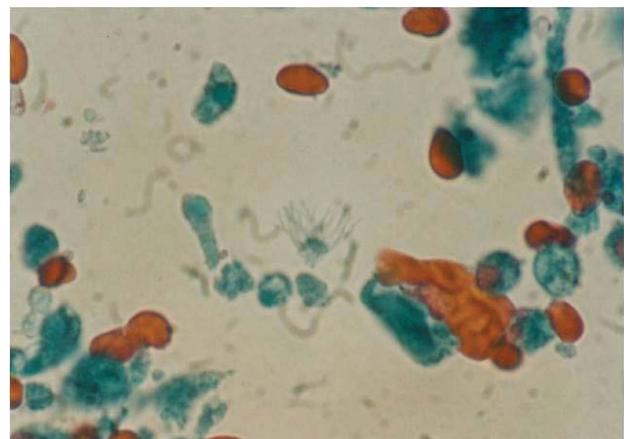
Figure 1. Abdominal ultrasound showing a cystic structure.



Figure 2. A cyst filling with clear serous fluid measuring 5 × 3 × 3 cm.



A



B

Figure 3A and B: Cytologic smears showing cuboidal to columnar cells intermixed with some ciliated cells. Wright and Papanicolaou stain, oil immersion.

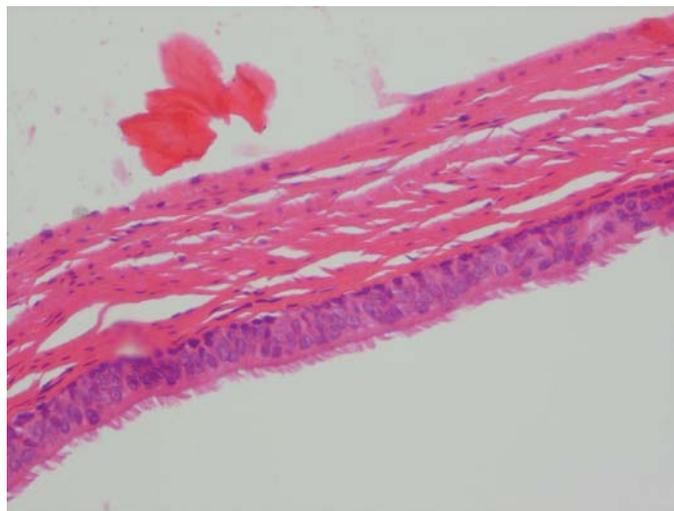


Figure 4. Cyst with a fibromuscular wall covered by ciliated epithelium of Mullerian type. (Hematoxylin and Eosin, x400.)

was thought to occur exclusively in male patients and it's location paralleling the anatomic course of Mullerian duct, i.e. spermatic cord, posterior to bladder and prostate⁵ but few cases of Mullerian cysts were reported in female patients too.^{1,6}

The main differential diagnoses of mesenteric cysts are with cystic mesothelioma and cystic lymphangioma. Cystic mesothelioma has a mesothelial lining without cilia and cystic lymphangioma is lined by a flat and fusiform layer of endothelial cells.^{1,5,9} Du-

plication anomalies (enterogenous cysts) are also considered in differential diagnosis of the mesenteric cysts. They are lined by intestinal type epithelium and a well-defined muscular wall contains neural elements.⁹ Traumatic cysts may also occur which do not have epithelial lining.⁹

Surgical resection is the mainstay of treatment for mesenteric cysts. Enucleation or a segmental bowel resection in cases where the cyst is adherent to the bowel are recommended procedures of surgery.⁸⁻¹⁰

In conclusion, urogenital cysts should be considered in differential diagnosis of any cystic lesion of the mesentery. Cytology could be a useful method for evaluation and revealing the nature of these cysts.

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