

# Retroperitoneal Cyst of Mullerian Type

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## INTRODUCTION

Retroperitoneum is the anatomical space located behind the abdominal or peritoneal cavity. Cystic masses arising in this space are uncommon and mostly seen in females. The cyst arising in the space can be further subdivided into neoplastic and non-neoplastic cyst. Mullerian cyst is a type of urogenital retroperitoneal cyst based on embryology and histogenetics. There incidence is approximately 1 in 100,000 adult admissions. Here, we report a case of 30 years old female who presented at gynecology out patient department with history of gradual onset abdominal distension for 4 months with on and off epigastric pain. On microscopic analysis, cyst is lined by ciliated columnar epithelium with underlying fibrocollagenous tissue with focal areas of smooth muscle, giving diagnosis of Mullerian cyst.

## CASE REPORT

A 30 years old nulliparous female presented to the gynecology department complaining of gradual onset abdominal distension with on and off epigastric pain. Clinical examination revealed distended abdomen of 28 weeks size located more towards the right side. A computed tomography scan revealed a large non-enhancing cystic

## ABSTRACT

Retroperitoneal mullerian cysts are rare, benign neoplastic cyst of urogenital subtype. They are usually asymptomatic and may present with symptoms if they grow considerably in size with pressure over the adjacent organ or follow infection, hemorrhage or rupture. Histologically, these cyst are lined with benign ciliated columnar epithelium. We present the case of a 30-year-old female with history of abdominal distension and epigastric pain. The mass excised was in retroperitoneal space and microscopic examination revealed benign cyst of mullerian origin.

## KEY WORDS

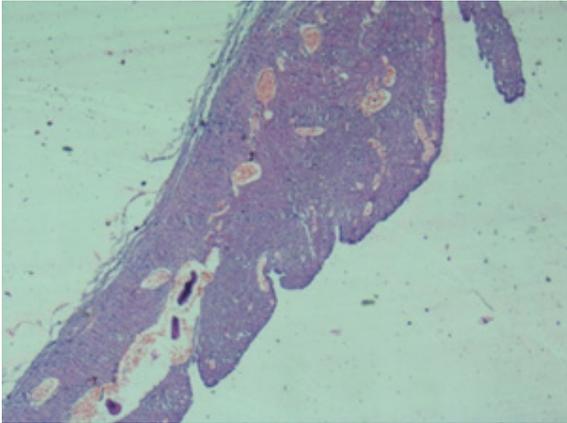
*Microscopic examination, Mullerian cyst, Retroperitoneum*

lesion with few thin internal septations and with no papillary projections or solid component, present predominantly within right side of abdomen and pelvis, crossing midline and abutting right ovary giving diagnosis likely of cystic right ovarian neoplasm.

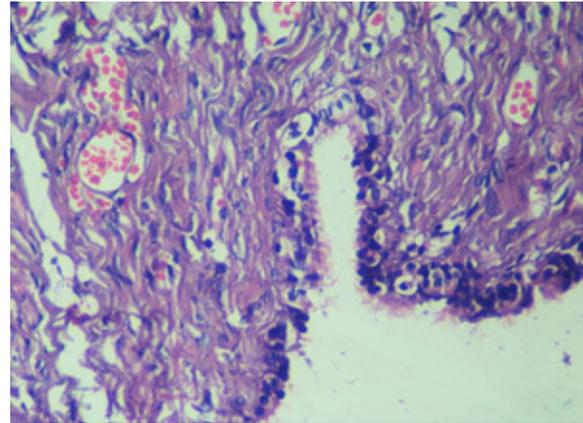
Per operatively a huge retroperitoneal cyst about 10 x10 cm was seen. Enucleation was done and about 2800 ml of clear fluid was drained. The specimen was received in Departement of Pathology for histopathological examination. Gross examination showed a single cystic tissue sent cut open measuring 15 x 6 cm. Wall thickness was 2 mm. No solid areas were noted. On histological examination, cystic tissue shows ciliated columnar to cuboidal lining with underlying fibrocollagenous tissue with congested blood vessels and focal area of smooth muscle (Fig. 1 and 2). Atypia and invasion was not seen. A diagnosis of benign retroperitoneal cyst, mullerian cyst was made.

## DISCUSSION

Retroperitoneal cystic lesions are a rare surgical entity. These masses can be divided into neoplastic lesions and non-neoplastic lesions. Neoplastic lesions include cystic



**Figure 1.** H & E Section shows cystic tissue lined by ciliated columnar to cuboidal lining with underlying fibrocollagenous tissue with congested blood vessels, 10 X



**Figure 2.** H & E Sections shows ciliated columnar epithelium resembling fallopian tube lining, 40 X

lymphangioma, mucinous cystadenoma, cystic teratoma, cystic mesothelioma, müllerian cyst, epidermoid cyst, taigut cyst, bronchogenic cyst, cystic change in solid neoplasm, pseudomyxoma retroperitonei, perianal mucinous carcinoma.<sup>1</sup> On basis of embryology and histogenetics retroperitoneal cysts can be divided to lymphatic cysts, mesothelial cysts, enteric cysts and urogenital cysts. Urogenital cysts can be further subclassified into pronephric, mesonephric, metanephric and Müllerian types.<sup>2</sup>

The exact pathogenesis of these müllerian cysts is not known. Three theories have been postulated including aberrant müllerian duct remnant, which might have a capacity for growth under abnormal hormonal stimuli or from the metaplastic transformation of coelomic epithelium or peritoneal lining to a serous/tubal-type epithelium and its subsequent invagination into retroperitoneal tissue and losing its connection with the surface.<sup>3,4</sup> Alternatively, retrograde menstruation or following pelvic surgical instrumentation, transplantation of ectopic endometrial tissue is also suggested.<sup>5</sup>

Retroperitoneal cyst of müllerian type usually occurs in obese women from 20 to 50 years of age.<sup>6</sup> In our case the patient was a 30 years old female. Early presentation of the cyst with abdominal swelling is not seen due to the presence of potential space within the retroperitoneum that has the

capacity to accommodate it.<sup>7</sup> Presentation with symptoms could occur following infection, hemorrhage, or rupture of the cyst and from pressure or displacement of the adjacent organ.<sup>8,9</sup>

History and physical examination helps in ruling out a neoplastic mass. Radiologically, CT scan is ideal for assessing retroperitoneal lesions as it provides discrete sectional images of the organs and retroperitoneal compartments.<sup>1</sup> However, in our case, the lesion was radiologically, preoperatively diagnosed as ovarian cyst.

Histopathological examination is diagnostic for müllerian retroperitoneal cyst. The lining epithelium is similar to the lining epithelium of fallopian tubes with some cyst walls showing smooth muscle along with loose fibrous connective tissue.<sup>1,10</sup> Similar ciliated low columnar epithelial lining resembling fallopian tube with underlying fibrocollagenous tissue and focal area of smooth muscle was noted in our case. No histological feature of malignancy was noted in our case. The reported incidence of malignant form is less than 3%.<sup>11</sup>

Retroperitoneal cysts are very rare entity. Approximately one third of these patients are asymptomatic and the cyst is found incidentally. Radiologically, CT scan may aid in diagnose the lesions, but cystectomy following histopathological examination remains the keystone for the diagnosis.

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