

Bladder endometriosis-A great masquerader

Shweta Ashok Deulkar¹, Meena Anand Pangarkar², Radhika Pravin Pagey³

From ¹Consultant, ²Head, ³Senior Consultant, Department of Pathology, National Cancer Institute, Nagpur, Maharashtra, India

ABSTRACT

The bladder is the most common site affected in urinary tract endometriosis. There is a controversy regarding the pathogenesis, clinical management (diagnosis and treatment), impact on fertility, and the risk of malignant transformation of bladder endometriosis. Patients presenting with symptoms typically attributed to endometriosis might go unnoticed because of its infrequent occurrence. We, hereby, report a case of a young female who had complaints of burning micturition and dysmenorrhea. After a thorough evaluation, she was found to have a urinary bladder mass which was subjected to a biopsy. The initial histopathology report came as bladder malignancy but immunohistochemistry proved otherwise and it turned out to be urinary bladder endometriosis.

Key words: Bladder, Cystitis glandularis, Endometriosis, Infertility

Endometriosis, a very common benign gynecological condition, is defined as the presence and growth of endometrial mucosa, glands, and stroma outside of the uterus. It most commonly involves the ovaries, fallopian tubes, and sometimes may be found involving other pelvic organs such as the rectum, bladder, pouch of Douglas, and even ureters. The bladder being a very infrequent site constitutes nearly 1% cases of endometriosis. It is, however, the most common site for urinary tract endometriosis [1-3].

CASE REPORT

A 35-year-old woman was referred to our outpatient department with a positive report of bladder malignancy. She had complaints of burning micturition and painful menstruation for 5 months. All investigations were done in an outside hospital.

Per speculum examination showed a normal cervix. On per vaginal examination, a hard mass was palpated in the anterior fornix.

In view of the complaints, a computed tomography (CT) scan was done. It showed a broad-based/sessile papillary lesion of 29 × 33 × 42 mm along the midline posterior wall of the base of the bladder. The lesion had an extension beyond the bladder wall (perivesical spread) toward the anterior wall of the uterus with a loss of fat planes. No appreciable lymphadenopathy was noted. Differentials on CT scan were given as vesical malignancy versus vesical papilloma. She underwent cystoscopy which showed elevated trigone of the


bladder, three bladder base masses in trigone and supratrigonal area, approximately measuring 1.5 × 1 cm.

Transurethral resection of bladder tumor was done. The first histopathology report suggested the lesion to be infected transitional cell papilloma. The slides were reviewed later and another diagnosis of the papillary urothelial neoplasm of low malignant potential (PUNLMP) was given.

The patient was referred to the tertiary cancer care center considering the diagnosis of PUNLMP. As per the institutional protocol, the slides were reviewed at our hospital. The superficial biopsy section showed polypoidal mucosal fragments lined by benign urothelium. Subepithelial tissue shows congested blood vessels and stroma along with multiple variably sized glands lined by urothelial, columnar, cuboidal, and mucinous types of epithelium. Chronic inflammatory infiltrate was seen, whereas the deeper biopsy showed muscle tissue infiltrated with glands formed by columnar to cuboidal cells and stromal inflammatory infiltrate (Fig. 1a-c). Initial biopsy also shown similar glands in deeper muscle tissue (Fig. 1d).

In view of radiology, cystoscopy, and morphological findings, the differentials were given as cystitis cystica glandularis, endometriosis, and endocervicosis. Hence, immunohistochemistry (IHC) was advised for confirmation. On IHC, glandular cells in the muscularis propria showed immunoreactivity to estrogen receptor (ER) and the stroma surrounding the glands shows immunoreactivity to CD-10 and ER and negative for CEA. Surface epithelium shows that immunoreactivity to uroplakin along with membranous β-catenin expression is seen in the urothelium and subepithelial glands (Fig. 2).

Considering history, histopathology, and IHC, the final diagnosis of polypoid cystitis glandularis with endometriosis was

Access this article online	
Received - 12 March 2023 Initial Review - 23 March 2023 Accepted - 05 April 2023	Quick Response code 
DOI: 10.32677/ijcr.v9i3.3917	

Correspondence to: Shweta Ashok Deulkar, Row House No. 46, Nirmal Nagari, Nagpur, Maharashtra - 440 009, India. E-mail: deulkarshweta7@gmail.com

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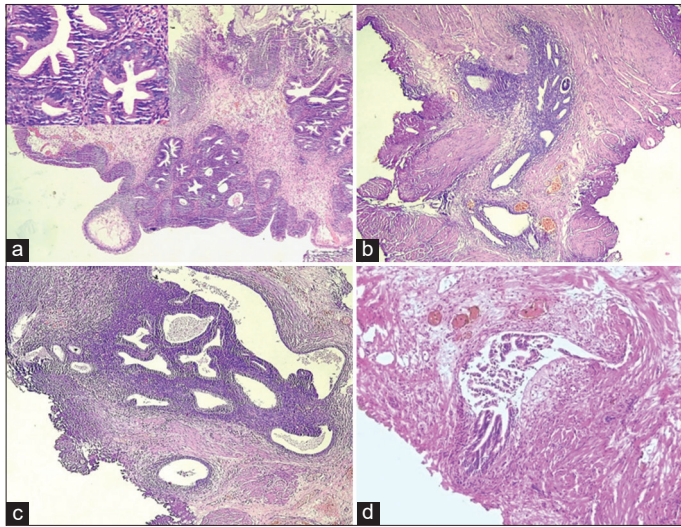


Figure 1: (a) Polypoidal bladder mucosa with subepithelial glands (inset-cystitis glandularis); (b and c) Deeper muscle showing glands surrounded by dense stroma; (d) Initial biopsy showing similar glands in deeper muscle

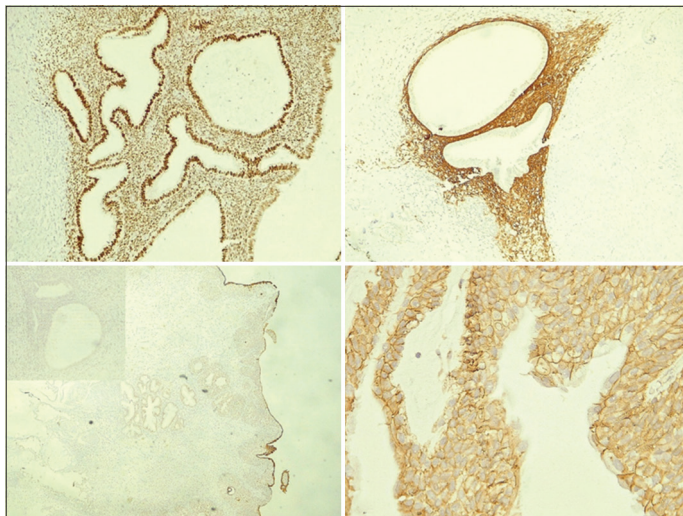


Figure 2: Immunohistochemistry images showing (a) muscle infiltrating glandular epithelium shows expression of estrogen receptor; (b) Same section where stromal cells show CD 10 positivity; (c) Uroplakin in superficial bladder epithelium (Negative deeper glands in inset); (d) Superficial glands of cystitis cystic showing membranous beta-catenin

given. Based on this diagnosis, the patient was treated medically with antiestrogens-letrozole and was kept on a follow-up. A follow-up CT scan done after 6 months showed a reduction in the size of the bladder wall lesion and hormonal treatment was continued.

DISCUSSION

Endometriosis of the urinary bladder is an uncommon pathology. Nevertheless, it should be taken into consideration in women with unexplained dysuria or other lower urinary tract symptoms such as frequency, hematuria, and less frequently, bladder pain, and urgency. It can also be suspected if imaging is suggestive of urinary bladder malignancy and histomorphological ambiguity [3].

The common age group affected by bladder endometriosis is women in their reproductive years (average age of 35 years). It is rare in postmenopausal women because endometriotic tissue is dependent on estrogen for continued growth and it generally undergoes regression after menopause [3].

Bladder endometriosis can be loosely categorized as primary (the one occurring spontaneously) or secondary (occurring after surgical intervention). About the origin of bladder endometriosis, the following theories have been suggested in the literature: (a) it develops from Mullerian remnants in the vesicouterine/vesicovaginal septum; (b) as an extension of an adenomyotic nodule of the anterior uterine wall; (c) as a result of implantation of regurgitated endometrium [1,3].

Up to 50% of the patients with bladder endometriosis have a history of past pelvic surgery. Bladder endometriosis lesion usually evolves from the serosal surface of the bladder toward mucosa and it is often multifocal, while the trigone and the dome are the most frequently affected sites. Cyclic sloughing of these endometrial glands along with the release of neurokinins and by pressure and traction on surrounding tissue from adhesions results in pain [2,3]. Cystitis glandularis and endometriosis both can mimic urothelial malignancy on their own.

Imaging techniques include cystoscopy, magnetic resonance imaging, ultrasonography, and urodynamics. Bladder carcinoma, angiomas, leiomyoma, amyloidosis, malakoplakia, glandular cystitis, nephrogenic adenoma, and extravesical processes such as diverticulitis should be considered in the differential diagnosis. The histopathological study is necessary in almost all cases [3,4].

A correct approach will be a detailed history regarding the type and duration of symptoms, especially in young females of childbearing age. Pathological assessment in conjunction with ancillary techniques is indispensable for the correct distinction between possible endometriosis and bladder neoplasm. The patient can either be subjected to conservative methods like hormonal therapy or surgical excision of the lesions. It is specially recommended in cases that have persistent pain or localized effect like ureteral constriction [4-6].

Histomorphology of cystitis glandularis shows cuboidal or columnar cells forming gland-like lumens, as well as cystically dilated lumens or cystic cavity. However, the cells lack significant atypia or mitotic activity or muscular invasion. Its differential can be inverted urothelial papilloma or invasive urothelial carcinoma. A thorough examination of the architectural pattern including cytological atypia and high proliferation and deeper muscular invasion can help us separate benign entities [7,8].

Endometriosis will show endometrial-type glands. There might be degenerative atypia as cells undergo regular cyclical changes. Endometrial-type stroma is seen with a fine capillary network or decidual change or fibrosis (long standing). A few cases may show only stroma (stromal endometriosis), as well as evidence of chronic hemorrhage in the form of hemosiderin-laden or foamy macrophages. Similarly, endocervical glandular component may be seen (endocervicosis) [8,9].

A combined expression of CK7, CA125, ER, and progesterone receptor along with CD10 in surrounding stromal cells helps delineate the presence of endometriosis in the bladder [8,9].

CONCLUSION

A careful assessment of suspected bladder endometriosis is very essential as it might be falsely diagnosed as a malignant pathology. As a result, the patient might be subjected to unnecessary and unwarranted testing and treatment which can be totally avoidable in cases with a high index of suspicion.

ACKNOWLEDGMENT

We thank consultants in Department of Medical Oncology and Gynecological Oncosurgery for their inputs.

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Funding: Nil; Conflicts of interest: Nil.

How to cite this article: Deulkar SA, Pangarkar MA, Pagey RP. Bladder endometriosis-A great masquerader. *Indian J Case Reports*. 2023;9(3):77-79.