A Rare Case of Bladder Outlet Obstruction from Fibroadenoma of the Urinary Bladder in an Adult Male

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Abstract

Fibroadenoma is a non-cancerous tumor commonly associated with the female breast and has been known to be hormone dependent. Fibroadenomas are known to present as solitary mobile masses within the young female breast and are mostly benign. Bladder outlet obstruction from fibroadenoma in a male patient is of extreme rarity and none of the reported cases of fibroadenoma in the male urinary bladder has been associated with this presentation. We herein present this rare finding within the male bladder, and a literature review of fibroadenomatous disease in men.

Cystoscopy and transurethral excision was performed for a suspected case of obstructive bladder tumor after ultrasonography showed a mass within the bladder neck region, in a patient presenting with acute urinary retention. Biopsy samples of the mass and surrounding tissue were taken and sent for histopathological examination. Pathological diagnosis of fibroadenoma of the urinary bladder was made after careful histopathological examinations. A meticulous search was made for supportive literature, which revealed two reported cases of fibroadenoma within the male urinary bladder but no association between fibroadenoma in this location and acute urinary retention or bladder outlet obstruction has ever been reported.

This report aims to further establish fibroadenoma as a definitive disease entity, possible etiology for obstructive bladder tumors and encourage further study into other possible clinical presentations and sequelae.

1. Introduction

Fibroadenomas are mixed epithelial/mesenchymal tumors that are considered one phase of a benign biphasic tumor, the other being adenofibroma [1]. The commonest site of fibroadenomas is the female breast where they account for about 50% of all breast biopsies, and are thought to be the result of aberrant hyperplastic processes rather than overt neoplasia.
While Adenofibromas have been reported in the ovarian fimbria, urinary bladder, the female genital tract and ovaries [3-9], only one case of fibroadenoma within the male urinary bladder has been reported in the medical literature. However, there are indications that cases of fibroadenoma in females other than the breast may go unreported [10]. Fibroadenomas have oestrogen and progesterone receptors [11] and are typically managed through observation if asymptomatic, or surgical excision if symptomatic.

2. Case Presentation

A 47-year-old man was admitted to the surgical emergency unit with complains of sudden onset suprapubic pain and inability to completely empty his urinary bladder for one hour. A review of his records showed he had one clinic evaluation for mild hematuria, dysuria and occasional poor urinary stream six months prior. Bedside ultrasound showed a polypoid mass measuring 8 cm x 3 cm in the region of the bladder neck. Acute retention was relieved by urethral catheterization and 520mls of urine was collected from the bladder. Cystoscopy was ordered for a clinical suspicion of fibroepithelial bladder polyp. Cystoscopy showed a solitary mass suspended by a short peduncle within the region of the trigone. Biopsy samples of the mass and surrounding tissue were sent for histopathologic evaluation. Other aspects of the patient's examination, including prostatic and digital rectal examinations, were unremarkable. He had no other masses on general examination. His blood and urine chemistries were within normal limits. Patient had transurethral resection of the mass with uneventful post-operative course.

Histopathology examinations revealed sections of fibrocollagenous papillae with urothelial lining and coarctate cystic glands with staghorn architecture; features similar to those of fibroadenoma breast. No evidence of tumor invasion was reported in surrounding tissues.

3. Discussion

Fibroadenomas are typically benign, firm and well demarcated masses known to present commonly within the female breast. They have peak incidence among women in their twenties and thirties but can occur at any age. Fibroadenomas have oestrogen and progesterone receptors and tend to shrink after menopause [11]. Their occurrence in locations outside the breast in females is unusual and seldom reported in medical literature. Even more unusual, is the presence of fibroadenoma outside the breast in a male patient. One case of fibroadenoma of the urachus was reported to have caused acute urinary retention in a white male necessitating segmental resection of the urinary bladder [12]. A study of the available literature also reveals a number of incidental cases of fibroadenoma related to the male urinary bladder. The has, however, been no reported case of fibroadenoma presenting with acute urinary retention.

Traditionally, fibroadenomas are thought to be benign lesions but there has been reports of increased risk for subsequent breast carcinoma in patients diagnosed with fibroadenomas [13-16]. This risk is generally higher in older women [17]. So far, there is little evidence linking fibroadenoma in the male patient with subsequent development of carcinomas. There is scarcity of literature examining the risk factors for fibroadenoma, its clinical sequelae, and risk of subsequent malignancy in male patients with biopsy diagnosis of fibroadenoma. It is also not clear what factors increase the risk of fibroadenomas in males. However, there have been reports of male-to-female transsexuals developing fibroadenomas [18,19] and iatrogenic male
fibroadenomas caused by estrogen therapy for an elderly medical condition such as prostate carcinoma [20]. Despite the links to hormonal changes, the cause of most fibroadenomas is unknown or iatrogenic. Furthermore, unlike in women, where fibroadenomas shrink during menopause, the fate of fibroadenomas in men has not been thoroughly studied.

Although there were initial doubts about the veracity of fibroadenomas in males, such as those documented by Holleb et al. [21], where cases of fibroadenomas in males are attributed to misdiagnosis, advances in cutting-edge histopathologic techniques and the development of methodical case reporting have made it clear that fibroadenomas in males are true events. Fibroadenomas have also been associated with syndromic presentations in the literature. A rare presentation of multiple vulva fibroadenomas with co-existing breast fibroadenomas and uterine fibroids has been reported in an adult female [22]. Another case of a man with a fibroadenoma of the breast, gynecomastia, rectum adenocarcinoma, and polyposis coli has also been reported [23].

Recurrent inflammatory and immunologic reactions within the urinary bladder have been linked to the development of fibrosis, especially in patients with noncompliant or underactive bladders [24]. These processes are thought to contribute to the formation of a pseudotumor with fibrous architecture, which is similar to fibroadenomas and warrants careful history taking and histopathologic examinations.

Further, review of the existing literature, shows that the existing cases of biopsy diagnosis of fibroadenoma in the male urinary bladder appear to possess similar histologic features with fibroadenoma breast in females [figure 1]. This points to a possible similarity in the pathogenesis of fibroadenomas in both sexes. So far, in all cases of fibroadenoma reported to have occurred in a male patient, there has been complete resolution of disease following surgical resection.
Figure 1: Histopathology: (a) Papillary growth composed of fibrocollagenous tissue with glands embedded in it. The papilla is lined by urothelium (H&E 10x). (b) Papillae of variable sizes are composed of vascular fibro-connective tissue and lined by urothelium (H&E 10x). (c) Cauliflower like growth pattern of papillae which are lined by urothelium of variable thickness (H&E 4x). (d) Urothelial lining of the papillae (H&E 40x). (e) Fibrous papillae compressing the cystic spaces giving an appearance of stag horn pattern as seen in intracanalicular fibroadenoma breast (H&E 4x; inset). (f) Papillae lined by columnar epithelium (H&E 10x).

Source: Padam Kumari Agarwal, MD. Department of Pathology, Vivekananda Polyclinic and Institute of Medical Science, Lucknow, India.

4. Conclusion

Fibroadenoma of the male urinary bladder is a rare disease entity, and it can easily be overlooked or mistaken for other more common tumors of the urinary bladder. Although its earliest reported case dates back to 1955, it remains a poorly recognized disease entity. Its diagnosis depends heavily on the careful histopathologic examination of bladder wall masses and a high clinical suspicion of the disease. Further research into the prevalence and clinical sequelae of fibroadenomas in males is necessary to provide a deeper insight into its pathogenesis and management.

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Ethics of Approval/Patient consent: Inform consent was obtained from the index patient prior to compilation of case report.

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References
