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Case Report

Eosinophilic Cystitis Presenting with Urinary Retention: A Rare Case Report

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Abstract

Eosinophilic cystitis (EC) is a rare disease with transmural infiltration of eosinophils. The diagnosis of EC is histopathological. Patients with EC often have symptoms and clinical findings similar to other urological disorders such as urinary tract infection, malignancy, and lower urinary symptoms. Frequency, dysuria, hematuria, and suprapubic pain are the most common symptoms with the least occurrence of nocturia and urinary retention. No standardized treatment exists. However, common, effective treatments include steroids, antihistamines, and surgery often in combination. Here, we present a case of a 45-year-old female who presented to our hospital with acute urinary retention. The patient was afebrile and hemodynamically stable. She had palpable bladder with suprapubic tenderness. Routine hematologic examination and biochemical profile were unremarkable. Urinalysis showed hematuria, proteinuria, and pyuria with no growth. Ultrasound abdomen showed an irregularly thickened urinary bladder following which the patient underwent cystoscopy which revealed a polypoidal edematous lesion involving the dome of the bladder which was biopsied, and histologic examination showed features of EC. The patient was started on tablet prednisolone and antihistamines along with the advice of clean intermittent self-catheterization. Following the 6-month follow-up, abnormal voiding symptoms had disappeared in each subsequent follow-up, but she could not be weaned off from clean intermittent self-catheterization.

Key words: Eosinophilic cystitis, Hematuria, Intermittent self-catheterization

INTRODUCTION

Eosinophilic Cystitis (EC) is a rare entity with unknown aetiology and variable clinical presentation often mimicking urinary tract infection leading to delayed diagnosis and treatment. Clinical assessment may be unremarkable, and biopsy is necessary to diagnose it. Treatment is by a combination of medications and operative intervention. Most will have a benign course with resolution with or without treatment, whereas some become chronic leading to bladder damage and renal failure. Long-term follow up may be warranted to ensure that more sinister cause such as cancer is not being masked. Here we present a case report of a 45 years old lady who presented to hospital with acute urinary retention, and a history of frequency, urgency, dysuria, haematuria since 4 to 5 months, without any history of fever; and to how the rare diagnosis of Eosinophilic cystitis was made and subsequently treated.

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CASE DESCRIPTION

Presentation of the Case

A 45-year-old female presented to hospital with acute urinary retention. On further inquiry patient had a history of frequency, urgency, dysuria, and hematuria for 4–5 months. History of recurrent urinary retention in the past. No history of nocturia, fever, vaginal, or urethral discharge. The patient was afebrile and hemodynamically stable. Physical examination revealed palpable urinary bladder with suprapubic tenderness.

Diagnosis, Intervention, and Outcome

Blood investigations were unremarkable. Urinalysis showed hematuria, proteinuria, and pyuria with no growth in culture. Ultrasound abdomen showed an irregular thickened urinary bladder following which the patient underwent cystoscopy

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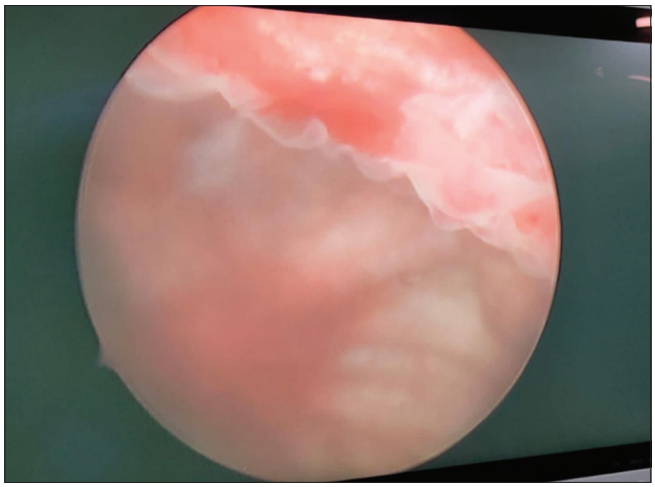

Figure 1: Cystoscopy revealed erythematous polypoidal mucosal lesion over the anterior wall of the urinary bladder

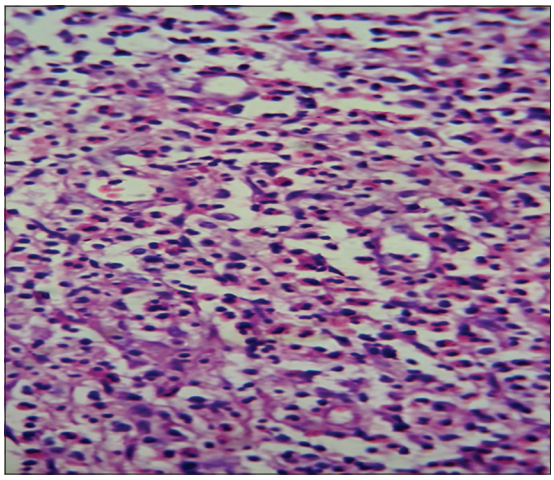

Figure 2: Histopathologic examination of specimen obtained by cystoscopy showed infiltration of eosinophils (H and E stain)

which revealed a polypoidal edematous lesion involving the dome of the urinary bladder [Figure 1] which was biopsied and histologic examination showed features of eosinophilic cystitis (EC) [Figure 2]. The patient was started on tablet prednisolone and antihistamines along with advised of clean intermittent self-catheterization. Following 6-month follow-ups, abnormal voiding symptoms had disappeared in each case but she could not be weaned off from clean intermittent self-catheterization. Ultrasonography revealed no bladder wall thickening or space-occupying lesions.

DISCUSSION

EC is a rare entity with unknown etiology[4] and variable clinical presentation often mimicking urinary tract infection (UTI), leading to delayed diagnosis and treatment. Clinical assessment may be unremarkable, and a biopsy is necessary to diagnose it. Once diagnosed, treatment is by a combination of medications and operative intervention. Most will have a benign course with resolution with or without treatment, whereas some become chronic leading to bladder damage and renal failure. Long-term follow-up may be warranted to ensure that more sinister causes such as cancer are not being masked.[6] EC commonly presents with urinary frequency, dysuria, hematuria, and suprapubic pain.[5] Less commonly, there can be nocturia and urinary retention[3] with the latter being more frequently involved in women and children.[9] Non-genitourinary symptoms, although rare, include gastrointestinal symptoms (vomiting and diarrhea) and skin rashes.[10,11] Physical examination although unremarkable may find suprapubic tenderness or lower abdominal mass in some cases.[12-14] Investigations may show proteinuria and microscopic hematuria on urinalysis. Urine cultures are usually negative.[3,7] Eosinophiluria is rare as eosinophils are rapidly degraded and with little mucosal shedding from urothelium.[15] Peripheral eosinophilia is found in 50% of patients with a history of atopy or allergy.[8]

Radiologically, variable thickening of the bladder wall from diffuse thickening to bladder mass may be shown depending upon the stages of EC.[16] Hydronephrosis, bladder, and ureteral fillings were noted in some studies.[9,15]

It is difficult to distinguish EC from other forms of cystitis or bladder malignancy from cystoscopy.[7] Raised velvety, polypoidal edematous lesions are usually noted.[1,2] However to confirm the diagnosis of EC, a biopsy is required. Histopathologically, there is transmural inflammation predominantly with eosinophils, with inflammation and edema more intense in lamina propria.[6,17] The histology can be classified into acute or chronic stages.[16,17]

The chronicity and recurrence are difficult to predict given the variable natural history of EC. Most will have a benign course with resolution with or without treatment, whereas some become chronic leading to bladder damage and renal failure. Subsequently, there may be a need for long-term monitoring with relevant blood and urine tests, imaging, and occasional cystoscopy[13,17] to ensure other causes such as urothelial cancers are not the cause. Because of its rarity, there are no standardized treatment protocols. However, there have been algorithms described[17] where the precipitating factor(s) such as concurrent UTI or medication are removed if identified. If no precipitant is found, non-steroidal anti-inflammatory drugs and anti-histamines have been recommended, followed by corticosteroids as a second line, and cyclosporine-A and azathioprine as a third line if there is no resolution. Modifications can be made such as adding antibiotics, if an infection is found. If medical management fails, then operative intervention may be indicated ranging

from diathermy to resection of bladder lesions to radical procedures such as cystectomy.

CONCLUSION

From this case report, it can be concluded that EC is a rare entity but should be included in the differential diagnosis of those presenting with urinary retention, especially in women and children to aid in early diagnosis and to prevent progression to a chronic disabling disease (when the lesion is located at or near bladder neck, it may present as urinary retention). Corticosteroids are the mainstay of therapy.

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