Malacoplakia of Urinary Bladder

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Abstract

Malacoplakia is a rare chronic inflammatory condition of the urinary tract frequently involving the urinary bladder. We present a case of 35 year old female with malacoplakia of the urinary bladder which was thought to be malignant on the cystoscopic examination. The diagnosis of malacoplakia was made on the biopsy. Since clinical and cystoscopic features closely simulate bladder malignancy, it is not possible to make an accurate diagnosis of malacoplakia without the histopathological examination. Genitourinary malacoplakia has to be considered in patients with recurring urinary tract infections and mass lesions as it can avoid unnecessary radical surgical treatment.

Introduction

Malacoplakia is an uncommon chronic inflammatory condition of the urinary tract with 40 per cent of the cases involving the urinary bladder.1,2 We hereby present a case of malacoplakia of the urinary bladder which was thought to be malignant on the cystoscopic examination.

Case Report

A 35 year old female presented with pain in the right flank, fever, weight loss and anorexia since 2 months. Urine examination showed numerous pus cells. On ultrasonography, the right kidney showed pyonephrosis with dilated, tortuous upper right ureter and a vesical calculus. Percutaneous nephrostomy was performed and frank pus was aspirated from the right kidney, however the culture did not show any growth. Cystoscopy revealed multiple whitish tiny nodules in the bladder mucosa with both ureteric orifices normal. Malignancy was suspected and a biopsy was performed. Sections showed hyperplastic urothelium and underlying lamina propria showed numerous large macrophages with abundant foamy eosinophilic cytoplasm, lymphocytes, plasma cells and neutrophils. Few of the macrophages also showed basophilic inclusions with a halo around it in the cytoplasm resembling Michaelis-Gutmann bodies. Special stains were performed. Positivity for Per-iodic acid Schiff was noted within the cytoplasm of the large macrophages. The basophilic inclusions were positive for Prussian blue and Von-Kossa, confirming the presence of iron and calcium deposits (Fig. 1). The diagnosis of malacoplakia was made and the patient was put on antibiotic treatment. Her symptoms resolved and she currently is on regular follow up.

Discussion

Malacoplakia is a rare inflammatory condition of the urinary tract observed more often in females in fifth decade.1,2 In nearly 75% of the reported cases, the genitourinary tract is involved.3 Other organs like gastrointestinal tract, retroperitoneum, skin, lungs, brain and tonsils can also be involved.1,2,3 Patients of malakoplakia of urinary bladder usually present with lower urinary tract irritative symptoms like frequency, dysuria and haematuria. Fever and flank mass usually indicate renal involvement which could be a possibility in our case also.3,4 Association of hydronephrosis, hydroureter, pyonephrosis and malakoplakia of urinary bladder with vesicoureteral reflux is also reported.1,2,4,5 Radiology of the affected organ may show poorly enhancing infiltrating parenchymal masses.1,4 On cystoscopy, urinary bladder may be small and contracted with multiple polypoid masses or plaques of yellow or fleshy red colour with areas of hyperaemia and ulceration. This can lead to the misdiagnosis of malignancy on cystoscopy.1,2
Microscopically, the characteristic cells are the large eosinophilic von Hansemann macrophages with presence of basophilic inclusions, the pathognomonic Michaelis-Gutmann bodies within the cytoplasm. These intracellular inclusions represent phagocytosed bacterial components which result from the inadequate killing of bacteria by macrophages that exhibit defective phagolysosomal activity. Partially digested bacteria accumulate in the macrophages leading to the deposition of calcium and iron on residual bacterial glycolipid. This can be demonstrated by special stains as in our case.

Almost 72-90% of cases are associated with coliform infection, predominantly Escherichia coli. An increased frequency of malakoplakia in immunocompromised patients is also well established and noted in upto 40% of the cases. There is also a report with synchronous appearance of xanthogranulomatous pyelonephritis and malakoplakia of the bladder, suggesting a common pathogenesis for these two diseases in which the urinary obstruction is the promoting factor.

Generally, upper urinary tract involvement requires surgical intervention, while most cases of urinary bladder involvement can be managed with antibiotics and endoscopic resection. Ascorbic acid and betahanechol chloride are also administered postoperatively, but the results have been variable. Our patient responded well to the antibiotic treatment. Though benign, malakoplakia can be recurring and requires close follow up. It is also known to be associated with urothelial carcinoma. Since clinical and cystoscopic features closely simulate bladder malignancy, it is not possible to establish a correct diagnosis of malakoplakia except by the histopathological examination. This could also be due to variable appearance of the lesions on cystoscopy. Hence urinary bladder malakoplakia should be considered in patients with recurring urinary tract infections and mass lesions and its early identification can help to avoid unnecessary surgical treatment.

References