Recurrent Painless Hematuria Secondary to Malacoplakia of the Urinary Bladder

A Case Report and Review of Literature

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INTRODUCTION

Malacoplakia is a rare granulomatous disease, which was described first by Michaelis and Gutmann in 1902.[1] It presents clinically as tan–yellow plaques and nodules or rarely as a bladder mass.[2] Clinically, the presentations may vary from a solitary lesion to more often multiple bladder lesions. Rarely, it may present without any obvious lesion.[3] We report a case of recurrent painless hematuria, which had urinary bladder malacoplakia, and reviewed the literature.

CASE REPORT

A 70-year-old non-smoking man presented with the history of recurrent episodes of intermittent painless hematuria with clots for the past 6 months. He gave history of increased frequency of micturition. He was diabetic with good glycemic control on oral hypoglycemic agent.

On evaluation, his urine culture was positive for E. coli. His hemogram and total and differential blood counts were normal. His bleeding profile was also within normal limits. His uroflowcytometry revealed a Q-max of 15 mL/sec (unobstructed flow). Ultrasonography of the abdomen and pelvis revealed normal kidneys. His urinary bladder was normal with a 30-g prostate. There was no residual urine on post void scan. Rest of the abdomen was normal. Microscopic urine examination had numerous red blood cells and pus cells. Urine cytology was not considered in view of the significant microscopic hematuria.

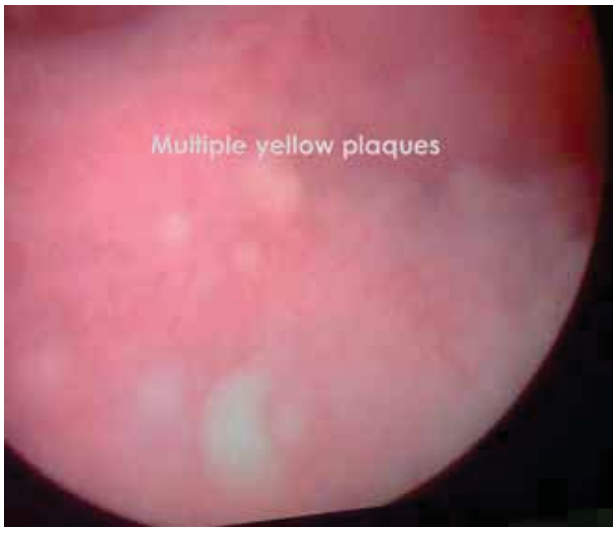

Figure 1. Tan-yellow nodules on cystoscopy.

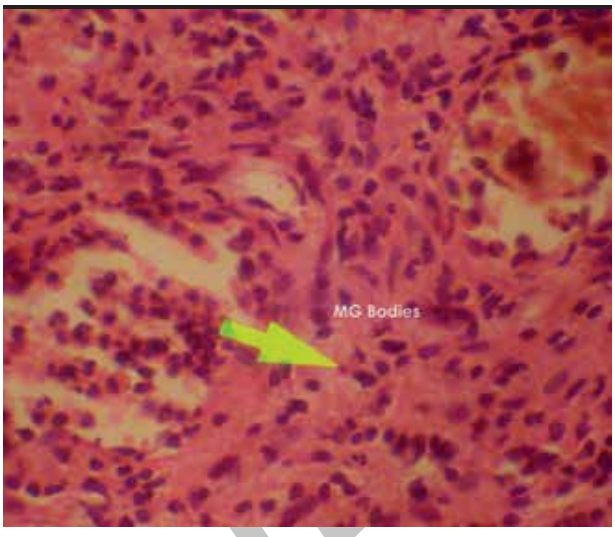

Figure 2. Classical Michaelis-Gutmann bodies on histological evaluation.

He was treated with a culture-sensitive antibiotic, fluoroquinolone (levofloxacin 750 mg once a day for five days), and was then subjected to cystoscopy under anesthesia. Cystoscopy revealed multiple bladder lesions in the form of tan-yellow colored nodules (Figure 1). Excisional biopsy of the nodules was suggestive of malacoplakia with classical Michaelis-Gutmann bodies (M-G bodies) on histological evaluation (Figure 2). Postoperatively, he was started on combination of trimethoprim/sulfamethoxazole for two weeks. The patient was asymptomatic at 3-month follow-up. Last three consecutive urine cultures done at 4-week interval were negative.

DISCUSSION

Malacoplakia is a rare disorder, which has been associated with selective immunoglobulin deficiencies, ultrastructural abnormalities of blood stream monocytes, and specific immunosuppressive treatments.[4-6] Stanton and Maxted, in their review of malacoplakia cases, found that 40% of cases could be associated with immunodeficiency or coincided with other neoplasia.[7]

Microscopic examination revealed M-G bodies, which are pathognomic for malacoplakia. These M-G bodies (inclusion bodies) are clusters of phagolysosomes enclosing partially digested bacteria, such as lipid A, bacterial capsule polysaccharide, and muramic acid, mineralized with iron salts and calcium phosphatase salts. This is the result of the incomplete bacterial digestion, which is caused by an imbalance in intracellular cGMP/cAMP ratio.[7,8]

Malacoplakia can affect any organ, but involves the genitourinary tract in 75% of cases, mostly in women (female-to-male ratio of 4:1), typically in the fourth decade of life.[9] However, it has been reported in as young as 12 years and as old as 70 years as well.[10,11] Clinically, urinary bladder malacoplakia may present as dysuria, frequency, strangury, and/or hematuria. It is usually associated with either abacterial or bacterial cystitis (positive urine culture; E. coli). Rarely, it may be associated with bladder carcinoma; thus, making the biopsy of these lesions mandatory.[2,12]

Treatment with antibacterial agents which attain good intracellular concentration (such as trimethoprim/sulfamethoxazole, rifampicin, and ciprofloxacin) along with anticholinergic agents (bethanechol) and ascorbic acid (the former increases the cGMP and the latter reduces the cAMP; thus, facilitating intracellular bacterial digestion by macrophages) is often successful.[7,11] If the medical treatment fails, then the patient may need surgical excision of the lesion along with long-term antibiotic therapy to keep the urine abacteriuric.[7]

To conclude, malacoplakia is a rare, but treatable cause of hematuria. Long-term follow-up is necessary as it has a ten-

dency to persist or recur.

CONFLICT OF INTEREST

None declared.

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