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Bladder Malakoplakia: Is It Common?

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ABSTRACT: Malakoplakia is an uncommon inflammatory disorder that is typically observed in patients with weakened immune systems. This condition primarily impacts the bladder, but there are some instances of involvement in other organs such as the lungs, gastrointestinal tract, endocrine glands, musculoskeletal tissue, lymphatic system, skin, and central nervous system. It usually resolves on its own and is characterized by soft, yellowish mucous plaques. Accurate histopathological analysis is essential for diagnosis since it often resembles malignancy. Treatment approaches for this condition range from administering antibiotics and surgical removal to combined therapy. This case study involves a 42-year-old woman who presented to the outpatient clinic with an incidental discovery of bladder tumours on imaging.

KEYWORDS: Malakoplakia, Bladder Malakoplakia, Urology, Bladder Tumour

I. INTRODUCTION

Malakoplakia is a rare chronic granulomatous disease that was first reported by Michaelis and Gutmann in 1902. [1] The term "Malakoplakia" was the introduced by Von Hansemann in the following year. [2] The word "Malakoplakia" is derived from the Greek words "malakos" and "plakos" which means soft plaque as it usually appears as a friable yellow mucosal lesion. This condition commonly affects the bladder however, the involvement of other systems has also been reported in the literature.

This disease is commonly seen among individuals with diabetes mellitus or immunocompromised patients. [3] The presentation of this disease varies based on the site affected. Patients with bladder malakoplakia will typically present with haematuria and symptoms of bladder irritability such as frequency, urgency or dysuria.

Malakoplakia often presents as a soft yellow plaque on gross pathology. Although this disease is benign, it often mimics a malignant tumour when a mass-like tumour is seen. Thus, the histopathological examination is crucial for confirmation of the diagnosis.

II. CASE REPORT

A 42-year-old lady with underlying hypertension and type 2 diabetes mellitus complicated with diabetic nephropathy was referred to our urology clinic for further management of the bladder tumour. She was initially reviewed in a nearby health clinic for regular health screening.

During the screening, her creatinine levels showed an increasing trend. The patient was otherwise asymptomatic. There was no history of lower urinary tract symptoms or haematuria. There were no symptoms of urinary tract infections. There was no significant family history or social history.

She was then subjected to imaging for further assessment. Ultrasound revealed multiple echogenic lesions in the urinary bladder. CT Urography was also performed, which revealed multiple enhancing bladder lesions with bladder thickening [**Figure 1]**.

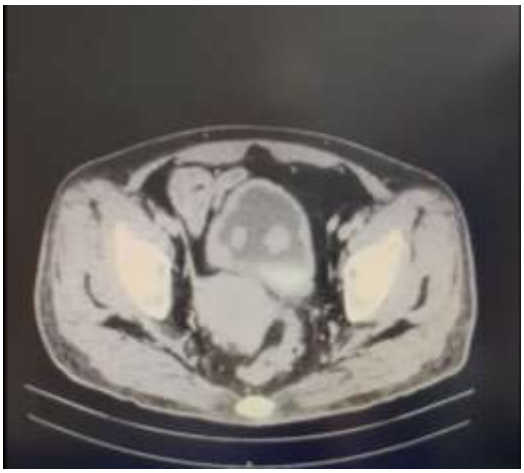

Figure 1: Axial view of CT Urography shows 2 bladder lesions with largest measuring 2x1.8x1.7cm.

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The full blood count was not suggestive of infection or anaemia. The renal profile was suggestive of chronic kidney disease. The full and microscopic examination of urine (Urine FEME) and urine for culture and sensitivity were unremarkable. She was subjected to a cystoscopy examination, which revealed multiple solid-looking tumours over the posterior wall of the bladder.

She was booked for transurethral resection of a bladder tumour (TURBT) under an elective surgery setting. Intraoperatively, there were solid-looking tumours, measuring 2cm each, seen over the posterior wall of the bladder **[Figure 2]**. Urgent histopathology examination was suggestive of malakoplakia of the bladder.

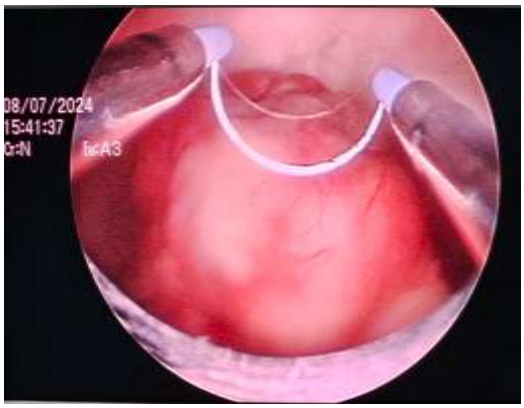

Figure 2: Intraoperatively, there was a solid-looking tumour seen over the posterior bladder wall measuring approximately 2x2cm.

She was discharged home well on postoperative day one. She was reviewed post-operatively during the clinic session. She was well and asymptomatic. A surveillance cystoscopy examination revealed no recurrence of bladder lesion.

III. DISCUSSION

Malakoplakia is an uncommon chronic inflammatory condition that primarily affects the urinary tract, though it has also been observed in other areas such as the gastrointestinal tract, lungs, skin, and brain. [4-6] The incidence of malakoplakia in the urinary tract is four times higher in females than in males. It can occur at any age but is most diagnosed around the age of 50. [7]

The clinical presentation of malakoplakia varies depending on the affected area. In cases involving the bladder, symptoms usually include haematuria and lower urinary tract issues like frequency, urgency, or dysuria. [8] Patients with bladder malakoplakia often have a history of chronic urinary tract infections caused by Escherichia coli. [9] The exact cause of the disease remains unclear.

Malakoplakia typically appears as soft, yellowish plaques on gross examination, though the lesions can vary and may be described as flat, nodular, papillary, polypoid, haemorrhagic, trabeculated, or tumour-like. On a microscopic level, malakoplakia is characterized by the presence of von Hansemann histiocytes and Michaelis-Gutmann bodies. Standard staining techniques do not reveal these bodies, requiring special stains such as von Kossa and Periodic Acid-Schiff stains for identification. [10]

Treatment for malakoplakia generally involves medical management, surgical excision, or a combination of both. There are no standardized guidelines for medical treatment, but antibiotics such as quinolones, trimethoprim, and rifampicin are commonly used. [11] However, the optimal duration of antibiotic therapy is still not well established. Surgical excision may be necessary for large lesions that cause urethral obstruction. [12]

Malakoplakia is a benign condition with a generally favorable prognosis. However, failure to diagnose it can result in significant morbidity and even mortality. There has been a case where undiagnosed malakoplakia led to renal failure and death, highlighting the importance of early diagnosis. [13] Long-term follow-up is recommended, as the condition tends to recur.

IV. CONCLUSION

Malakoplakia is an uncommon condition, but it is usually self-limiting and requires histopathological evaluation for diagnosis. Early detection and treatment of at-risk patients can help minimize morbidity. Treatment options may include antibiotics, surgical removal, or a combination of both. Surveillance cystoscopy is essential, as malakoplakia can resemble malignancy.

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