Case Report – Urological Oncology
Grand J Urol 2024;4(1):32-4
DOI: 10.5505/GJU.2024.73745

A Rare Clinical Condition That Can Mimic Bladder Malignancy: Primary Bladder Amyloidosis

Mesane Malignitesini Taklit Edebilen Nadir Bir Klinik Durum: Primer Mesane Amiloidozu

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Cite as: Negi SK, Desai S, Faujdar G, Sahu RD, Bansal S, Priyadarshi S. A rare clinical condition that can mimic bladder malignancy: Primary bladder amyloidosis. Grand J Urol 2024;4(1):32-4

Submission date: 02 January 2024 **Acceptance date:** 12 January 2024 **Online first:** 15 January 2024 **Publication date:** 19 January 2024

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Abstract

Amyloidosis is related to the extracellular deposition of abnormal protein fibrils in various tissues. It is clinically interesting that such cases' clinical, radiological, and even endoscopic presentation mimic urothelial carcinoma to a great extent. Here, we discuss a case of a 34-year-old gentleman who presented with frank painless hematuria. The patient was diagnosed with a bladder mass suspicious of malignancy depending on the clinical presentation aided by the cystoscopic and radiological evaluation. Histopathologic samples of the transurethral resection of the mass proved to be primary bladder amyloidosis. Further investigations of systemic illness excluded the secondary amyloidosis. The purpose of this case presentation is to create awareness among the urologists to think for the rare entity of urinary amyloidosis especially if the histopathology is negative for the malignant cells.

Keywords: amyloidosis, TUR, malignancy, Congo red

Özet

Amiloidoz, anormal protein fibrillerinin çeşitli dokularda hücre dışı birikmesiyle ilişkilidir. Bu tür vakaların klinik, radyolojik ve hatta endoskopik görünümlerinin ürotelyal karsinomu büyük ölçüde taklit etmesi klinik açıdan ilginçtir. Burada ağrısız hematüri şikayetiyle başvuran 34 yaşındaki erkek olguyu tartışıyoruz. Sistoskopik ve radyolojik değerlendirmenin yardımıyla hastaya klinik tabloya göre malignite şüphesi taşıyan mesane kitlesi tanısı konuldu. Kitlenin transüretral rezeksiyonunun histopatolojik örneklerinin primer mesane amiloidozu olduğu kanıtlandı. Sistemik hastalıkla ilgili daha ileri araştırmalar sekonder amiloidozu dışladı. Bu olgu sunumunun amacı ürologlar arasında nadir görülen bir durum olan üriner amiloidozun, özellikle de histopatolojinin malign hücreler için negatif olduğu durumlarda düşünülmesi konusunda farkındalık yaratmaktır.

Anahtar kelimeler: amiloidoz, TUR, malignite, Kongo kırmızısı

Introduction

Amyloidosis is a rare disease characterized by deposition of extracellular, hyaline and proteinaceous material in various organs. Amyloidosis can be primary, secondary, and hereditary. Localized amyloidosis of the urinary bladder is rare easily confused with an infiltrating tumor on imaging and cystoscopy [1]. Accurate diagnosis depends on biopsy showing negative malignant cells and presence of amyloid fibrils on cong red staining.

Case

34 yr male patient with gross hematuria. H/o smoking. Urinary ultrasonography showed that bladder mass of 3x2cm on left lateral wall. Urine for malignant cytology negative. Magnetic resonance imaging showed that 3x2.5 cm hyperintense mass in left lateral wall of urinary bladder s/o neoplastic etiology **(Figure 1).** Patient underwent cystoscopy and complete transurethral bladder tumour resection (TUR). Patient dicharge on day 3 and follow up in outpatient department with histopathology report come to be amyloidosis **(Figure 2).** After that patient underwent investigations to rule out systemic amyloidosis which were normal. Patient also underwent cystoscopy at 3 month and found to be normal. Now on regular follow up.

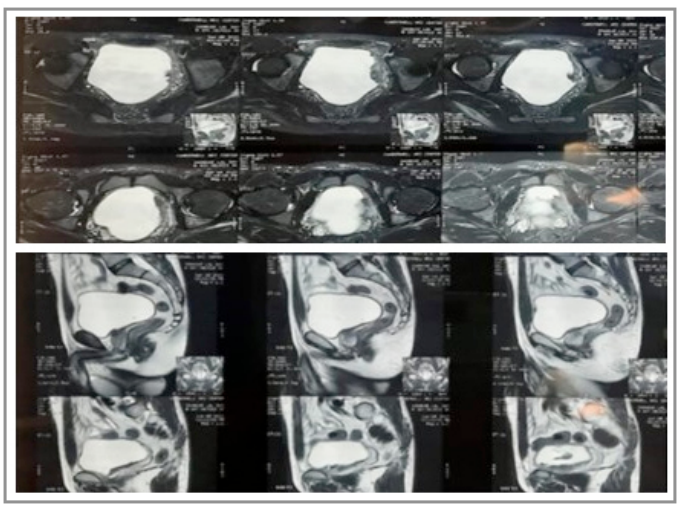

Figure 1. MRI images showing bladder mass on left lateral wall of UB

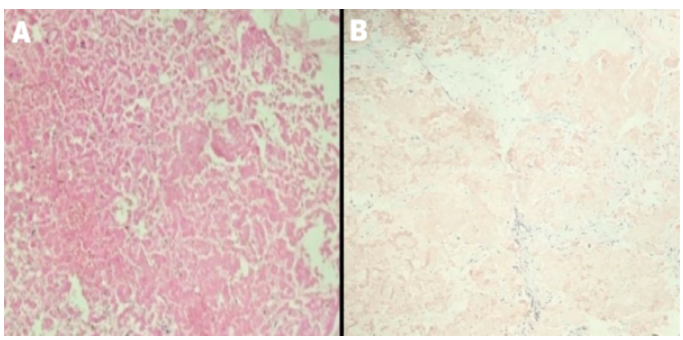

Figure 2. (A) Microscopy of tumour and (B) Congo red stain examined under polarized light shows characteristic apple-green birefringence appearence

Discussion

Amyloidosis can be either primary (AL) associated with immunocyte dyscrasia or secondary (AA) as a complication of chronic inflammation.The involvement of the kidney more common in secondary amyloidosis about 57% of all systemic didease, whereas in primary amyloidosis, the urinary bladder is more [2,3]. On imaging and cystoscopy poses diagnostic dilemma mimic malignacy. Biopsy will confirm diagnosis. TUR of lesion is successful treatment in most cases, medical therapy show only limited success. long- term follow-up with cystoscopy is indicated for recurrent amyloidosis [4].

Amyloidosis is a rare disease that occurs when an abnormal protein (amyloid) builds up in organs and interferes with their normal function. A very similar to that of bladder malignancy in regards to its presentation. A recently published systematic review by Pyrgidis et al (2021), 184 cases were reported, among 184 cases, 21.7% were asian [4]. Depending on the degree of disease involvement, patients may present with painless hematuria, irritative urinary symptoms, and obstructive symptoms. Urine cytology cannot distinguish amyloidosis from carcinoma because of the subendothelial location of most amyloid deposits and limited sensitivity for urothelial carcinoma. Definitive diagnosis of amyloidosis is achieved with biopsy. Like in our case, congo red staining of amyloid under light microscopywith polarized light produced the appearance of apple green birefringence. Although amyloidosis and bladder cancer's gross picture can look similar, it is easy to differentiate amyloidosis from urothelial carcinoma by light microscopy. On the one hand, amyloidosis is an acellular process, but on the other hand, urothelial carcinoma is a very cellular process. Another differential diagnosis besides urothelial carcinoma is chronic cystitis with fibrosis. Amyloidosis and cystitis can be associated with severe inflammation and deposition of proteinaceous material.

Conclusion

A diagnosis of bladder amyloidosis is challenging, particularly when primary bladder malignancy has been suspected surgical pathologists and urologist to be aware of the unusual findings of urinary bladder amyloidosis for accurate diagnosis and workup.

Ethics Committee Approval: N / A.
Informed Consent: An informed consent was obtained from the patient.
Publication: The results of the study were not published in full or in part in form of abstracts.
Peer-review: Externally peer-reviewed.
Authorship Contributions: Any contribution was not made by any individual not listed as an author. Concept – S.K.N., S.D.; Design – S.K.N., S.D.; Supervision – S.K.N., S.P.; Resources – G.F., R.D.S., S.B.; Materials – G.F., S.B.; Data Collection and/or Processing – S.K.N., G.F., R.D.S., S.B.; Analysis and/or Interpretation – S.K.N., G.F., S.B.; Literature Search – G.F.,R.D.S., S.B.; Writing – S.K.N., S.D.; Critical Review – S.K.N., S.P
Conflict of Interest: The author declares that there was no conflict of interest.
Financial Disclosure: The author declares that this study received no financial support.

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