

Primary Localized Amyloidosis of the Bladder Mimicking Neoplasia

Neoplaziyi Taklit Eden Mesanenin Primer Lokalize Amiloidozisi

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Abstract

A 63-year-old woman was admitted to our hospital with macroscopic hematuria in 2013. On computed tomography, the bladder wall thickness was 2 cm, suspicious for malignancy. Cystoscopy showed irregularity in the posterolateral side of the bladder. Transurethral resection was performed. Histopathological examination revealed a dense homogeneous eosinophilic material in the lamina propria which showed positive orange-red staining with apple-green birefringence under polarized light. There were no signs of systemic amyloidosis at the time of diagnosis and during the 36 months of follow-up. Differential diagnosis of amyloidosis in the bladder includes urothelial carcinoma due to its appearance on imaging and cystoscopy. Histopathological evaluation is a requirement for accurate diagnosis.

Keywords: Primary, Amyloidosis, Bladder

Öz

Altmış üç yaşında kadın hasta 2013 yılında makroskopik hematüri ile hastanemize başvurdu. Bilgisayarlı tomografide, mesane duvarının posterolateral ve superior kısmının, tümör açısından şüphe uyandıracak şekilde 2 cm kalınlığında olduğu görüldü. Sistoskopik bakıda mesanenin posterolateral tarafında düzensiz alanlar görüldü. Transüretal mesane rezeksiyonu ile kürete materyal elde edildi. Biyopside lamina propriada turuncu-kırmızı boyanma gösteren, yoğun, homojen eozinofilik materyal izlendi ve polarizasyonda elma yeşili çift kırılımı gösterildi. Olguda tanı anında ve 36 aylık takiplerinde sistemik amiloidoz bulguları saptanmadı. Mesanenin amiloidozu, görüntüleme yöntemlerinde ve sistoskopide ürotelyal karsinom ile kolayca karışabilen nadir bir durumdur. Kesin tanı için histopatolojik inceleme şarttır.

Anahtar Kelimeler: Primer, Amiloidoz, Mesane

Introduction

Amyloidosis is a disorder caused by extracellular deposition of insoluble fibrils composed of misaggregated proteins (1). Primary amyloidosis of the urinary bladder is an extremely rare entity with less than 200 cases reported worldwide (2). The lesion can easily mimic malignancy because of its appearance on radiological examination and cystoscopy (3,4,5). Histopathological evaluation is necessary to exclude malignancies. We report a 63-year-old female who was admitted to our hospital with hematuria and received the histopathological diagnosis of amiloidosis.

Case Presentation

A 63-year-old female patient was admitted to our hospital with macroscopic hematuria. Computed tomography showed urinary bladder wall thickness of 2 cm in the posterolateral and superior wall of the bladder, suspicious for malignancy. Cystoscopy showed irregularity in the posterolateral wall of the bladder. Transurethral resection was performed. Histopathological examination revealed a dense homogenous eosinophilic material in the lamina propria showing positive orange-red staining with Congo-red with apple-green birefringence under polarized light (Figure 1). There was no evidence of urothelial neoplasia or precursor lesion. There was no sign of systemic amyloidosis at the time of diagnosis and during the 36 months

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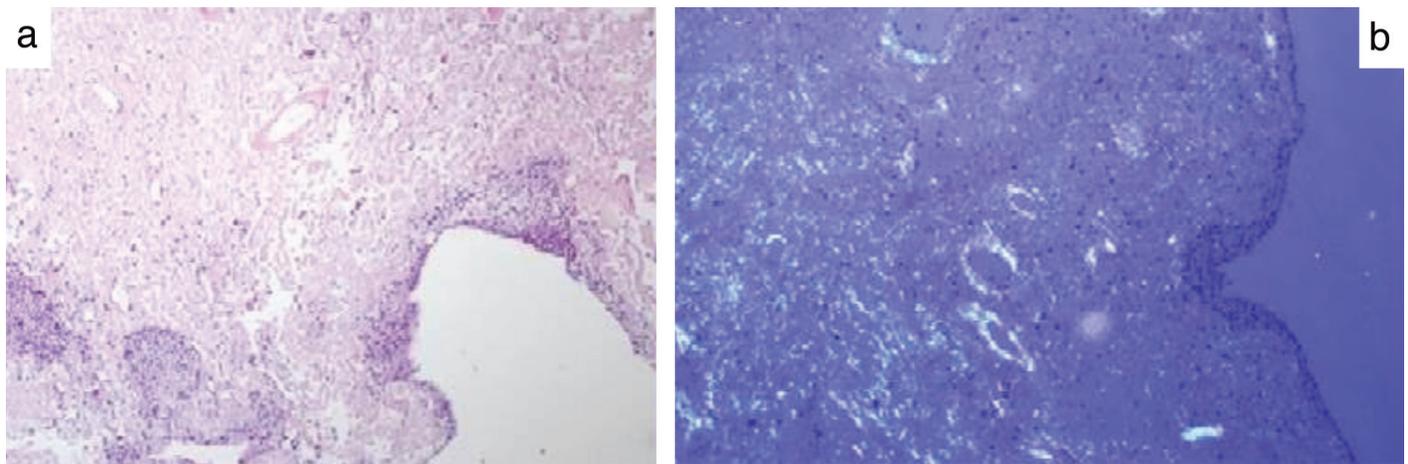


Figure 1. (a) Deposits of eosinophilic, acellular material in the lamina propria beneath urothelial epithelial layer (hematoxylin and eosin stain, 400x). (b) Apple green birefringence of amyloid deposits under polarized microscopy (congo red stain, 400x)

of follow-up. However, 36 months later, she presented with a second episode of macroscopic hematuria and underwent transurethral resection. Histopathological examination showed amyloid deposition in the lamina propria of the bladder wall.

Informed consent was obtained from the patient.

Discussion

Amyloidosis is a benign, non-neoplastic disease characterized by extracellular deposition of eosinophilic fibrillar proteins in various tissues and organs (6). In the urinary tract, amyloid deposition may occur in the kidney, renal pelvis, ureters, urinary bladder, urethra and even in the penis (4).

Both sexes are equally affected, most commonly during the fifth and seventh decades of life (4). The most frequent symptom of amyloidosis in the bladder is gross haematuria (7). Irritative voiding symptoms have been reported in 23% of cases in various studies (8). Since it predominantly involves the submucosal and muscular layers, massive hemorrhage is a rare occurrence (4).

Cystoscopic examination of bladder amyloidosis often shows yellowish plaques or tumor-like structures (9).

Histopathological examination demonstrates a dense acellular homogenous eosinophilic material showing positive orange-red staining with Congo-red with apple-green birefringence under polarized light.

Amyloidosis is classified as primary amyloidosis (AL), secondary amyloidosis (AA) and transthyretin-related amyloidosis (ATTR) (9,10,11). Amyloidosis can be either localized or systemic (9,10,11). Localized deposition of amyloid may occur in any organ in the absence of systemic involvement (12). Primary localized amyloidosis of the urinary bladder is uncommon, however, the bladder is the most common site of involvement

(3,4). Primary amyloidosis is also the most common form of localized amyloidosis in the bladder (11).

The treatment modality in primary bladder amyloidosis is usually conservative with transurethral resection, but high recurrence rate of almost 50% has been described (7). In some patients with irritative symptoms or gross haematuria, cystectomy is necessary (7). Medical treatment, such as colchicines, nitrofurazone and dimethylsulfoxide as primary or adjuvant therapy, has been tried for symptomatic relief (4).

Amyloidosis of the bladder is a rare condition which mimics urothelial carcinoma because of its appearance on imaging as well as cystoscopy. Histopathological evaluation is essential for definitive diagnosis and management.

Ethics

Informed Consent: Informed consent was obtained from the patient.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: S.E., Ü.K., E.Ç., Ö.Ç., Concept: S.E., Ü.K., E.Ç., Design: S.E., Ü.K., Data Collection or Processing: S.E., Ü.K., E.Ç., E.E.P., S.A., Ö.Ç., Analysis or Interpretation: S.E., Ü.K., Literature Search: S.E., Ü.K., E.Ç., E.E.P., S.A., Ö.Ç., Writing: S.E., Ü.K.

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References

1. Hazenberg BP. Amyloidosis: a clinical overview. *Rheum Dis Clin North Am* 2013;39:323-345.

2. Merrimen JL, Alkhdair WK, Gupta R. Localized amyloidosis of the urinary tract: case series of nine patients. *Urology* 2006;67:904-909.
3. Livneh A, Shtrasburg S, Martin BM, Baniel J, Gal R, Pras M. Light chain amyloidosis of the urinary bladder: a site restricted deposition of an externally produced immunoglobulin. *J Clin Pathol* 2001;54:920-923.
4. Karan SC, Shah AK, Srivastava A, Bhardwaj R. Primary amyloidosis of urinary bladder: Mimicking transitional cell carcinoma bladder? *Med J Armed Forces India* 2016;72:91-93.
5. Palmero Marti JL, Budia Alba J, Arlandis Guzman S, Benedicto Redon A, Hernandez Marti M, Jimenez Cruz JF. Secondary vesical amyloidosis. *Actas Urol Esp* 2004;28:238-242.
6. Jain M, Kumari N, Chhabra P, Gupta RK. Localized amyloidosis of urinary bladder: A diagnostik dilemma. *Indian J Pathol Microbiol* 2008;51:247-249.
7. Hosseini A, Ploumidis A, Adding C, Wiklund NP. Radical surgery for treatment of primary localized bladder amyloidosis: could prostate-sparing robot assisted cystectomy with intracorporeal urinary diversion be an option? *Scand J Urol* 2013;47:72-75.
8. Khan SM, Birch PJ, Bass PS, Williams JH, Theaker JM. Localized amyloidosis of the lower genitourinary tract: a clinicopathological and immunohistochemical study of nine cases. *Histopathology* 1992;21:143-147.
9. Kawashima A, Alleman WG, Takahashi N, Kim B, King BF Jr, LeRoy AJ. Imaging evaluation of amyloidosis of the urinary tract and retroperitoneum. *Radiographics* 2011;31:1569-1582.
10. Monge M, Chauveau D, Cordonnier C, Noël LH, Presne C, Makdassi R, Jauréguy M, Lecaque C, Renou M, Grünfeld JP, Choukroun G. Localized amyloidosis of the genitourinary tract: report of 5 new cases and review of the literature. *Medicine (Baltimore)* 2011;90:212-222.
11. Schou-Jensen KS, Dahl C, Pilt AP, Azawi NH. Amyloidosis the bladder: three cases with different appearance. *Scand J Urol* 2014;48:489-492.
12. Kobayashi T, Roberts J, Levine J, Degrado J. Primary bladder amyloidosis. *Intern Med* 2014;53:2511-2513.