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Case Report

Case Report of High-Grade Urothelial Cancer in 26 Years Old Male

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Introduction

Bladder cancer (BCa) is the fifth most common cancer in the United States, and the eighth most common cancer in males in Saudi Arabia [1]. Bladder cancer can be categorized as either superficial bladder cancer or muscle invasive bladder cancer, both of which incidence increases with age [1]. The peak incidence of BCa is in the sixth decade of life. The diagnosis of either type of bladder cancer is extremely uncommon in patients younger than forty years old [2]. Despite its rarity, few cases were reported about young patients who were incidentally diagnosed with bladder cancer [3]. It is important to note that bladder cancer in younger patients seem to be more prevalent in the Middle East [3]. The aim of our case report is to share our experience with a young adult patient with MIBC and emphazie the importance of thorough clinical investigation even if not in regards with the common literature.

Case Presentation

This is a case report of a 26-year-old man, who is both medically and surgically free, with a history of smoking one pack per day for the past ten years. The patient presented to our hospital complaining of painless visible hematuria associated with urgency and urge incontinence for one year and six months. He was not complaining of any other lower urinary tract symptoms nor any constitutional symptoms. The patient denied family history of malignancies. At the time of presentation to our facility in November 2023, our patient was being treated as a case of urinary tract infection by another hospital and has had received multiple courses of antibiotics with no resolution of his hematuria or urinary symptoms. The patient also underwent cystoscopy in another hospital, in which a bladder mass was identified for which he underwent transurethral resection. The histopathology results was positive for high-grade urothelial cancer, T2. The patient was referred to our institution where his histopathology was reviewed again and was found T1 with no muscle in the specimen. He underwent a second TUR in our institution, in which the histopathology results was high-grade urothelial cancer, T1 with muscle included in the specimen.

Discussion

Bladder cancer (BCa) most commonly occurs in the sixth decade of life, with diagnoses in individuals under 40 years old being exceedingly rare. Nonetheless, several cases of incidental BCa diagnosis in younger patients have been documented, particularly in the Middle East, where the prevalence appears higher [1].

A study involving 82 patients aged 40 years or younger, with the youngest being 11 years old, found that all participants presented with gross hematuria, and six reported a history of hematuria spanning approximately a decade [4]. Similarly, in a case series of patients under 30 years old, the youngest patient was 15 years old, with 73.8% of the cases exhibiting intermittent gross hematuria as the primary symptom [5]. Another case report described an 18-year-old male who presented with macroscopic hematuria as the chief complaint [6]. Our patient similarly presented with a one-year and six-month history of painless visible hematuria, accompanied by urgency and urge incontinence. Furthermore, in a separate study of 17 patients, the youngest being 19 years old, dysuria was identified as the predominant initial symptom [7].

Gender distribution exhibits variation between younger and older populations. One study comprising 2,160 patients revealed that the incidence of urothelial bladder cancer (UBC) in women increased with age, with the incidence rate being 4.5 times higher in males

compared to females in individuals under 41 years. This gender disparity diminished to a threefold difference in those over 50 years [8]. Conversely, another study reported that women represented 32% of patients under 45 years, compared to only 12% among older patients [9]. However, a separate study involving 27 individuals (64.3% male) found no statistically significant difference in gender distribution between the younger and older cohorts [5].

A study categorized 18 patients under 29 years into three age groups, revealing a positive correlation between age and tumor grading, with older patients exhibiting more advanced tumor stages [10]. Additionally, younger individuals predominantly present with low-grade and low-stage bladder urothelial carcinoma [7,11]. Despite these findings, our patient presented with a high-grade tumor.

Prognostic ally, early-onset presentation has been correlated with more favourable outcomes. One study demonstrated that patients under 19 years of age exhibit superior clinical outcomes compared to older individuals [6]. Additionally, another investigation reported that urothelial tumors in younger patients generally have a favourable prognosis, with no observed tumor progression [7]. However, given the high-grade nature of the tumor in our patient, the prognosis remains poor, particularly in light of multiple recurrences. Pertaining to the pathological features, patients younger than 40 years typically present with solitary, small tumors, in contrast to older patients [7]. Supporting this, another study reported that all 42 patients (100%) had superficial tumors (Ta and T1), with only 14.3% classified as high grade, aligning with our patient who presented with a T1 tumor [5].

Etiologic factors implicated in transitional cell carcinoma include smoking, occupational exposure to carcinogens, schistosomiasis, cyclophosphamide use, male gender, advanced age, prior radiotherapy, and genetic predispositions. Our patient had a ten-year history of smoking but lacked a family history of malignancies, suggesting that genetic predisposition was not a primary risk factor in this case [6].

Conclusion

In conclusion, hematuria in young patients should still prompt physicians to conclude all needed investigations to rule out cancerous causes. This case report presented a case in which a delayed diagnosis happened due to the rarity of bladder cancer in patients younger than 40.

References

1. Alghafees MA, Alqahtani MA, Musalli ZF, Alasker A. (2022) Bladder cancer in Saudi Arabia: A registry-based nationwide descriptive epidemiological and survival analysis. Annals of Saudi Medicine. 42:17–28.
2. Nabbout P, Eldefrawy A, Engles CD, Culkin DJ, Slobodov G. (2013) Muscle-invasive bladder cancer in a young adult: A case report and a review of the literature [Internet]. U.S. National Library of Medicine; Cent European J Urol. 66: 185–187.
3. Mahmoud A, Ramez AH, Samer S, Akram A, Fawzi A, et al (2023) Bladder cancer in young adults: Disease and treatment. Urology annals [Internet]. 15: 207-210.
4. Wang ZH, Li YY, Hu ZQ, Zhu H, Zhuang QY, et al (2012) Does urothelial cancer of bladder behave differently in young patients? [Internet]. U.S. National Library of Medicine. 125: 2643-8.
5. Wang Q, Ji Z-G, Li H, Fan H, Chen Z, Shi B, et al. (2015) Clinicopathologic comparison of urothelial bladder carcinoma in young and elder patients. Pathology & Oncology Research. 22:67–70.
6. Koçan H, Yıldırım Ş, Özdemir E, Yazıcı M, Erdoğan E, et al. (2017) A transitional cell tumor of the bladder in a young adult: A casereport and review of the literature. Journal of Urological Surgery. 4:76–8.
7. Çivi Çetin K, Öner S, Erdoğan B, Simşek G, Sezer M (2024) Young population bladder neoplasms [Internet]. U.S. National Library of Medicine.
8. Poletajew S, Walędziak M, Fus Ł, Pomada P, Ciechańska J, et al (2024) Urothelial bladder carcinoma in young patients is characterized by a relatively good prognosis [Internet].
9. Migaldi M, Rossi G, Maiorana A, Sartori G, Ferrari P, et al (2004) Superficial papillary urothelial carcinomas in young and elderly patients: A comparative study [Internet]. U.S. National Library of Medicine. 94: 311-6.
10. Caione P, Patruno G, Pagliarulo V, Bulotta AL, Salerno A, et al. (2017) Nonmuscular invasive urothelial carcinoma of the bladder in pediatric and young adult patients: Age-related outcomes. Urology. 99:215–20.
11. Palumbo C, Pecoraro A, Rosiello G, Luzzago S, Deuker M, et al. (2020) Bladder cancer incidence rates and trends in young adults aged 20-39 years. Urologic Oncology: Seminars and Original Investigations. 38.