

# Primary Melanoma of Urinary Bladder: A Case Report and Review of the Literature

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## ABSTRACT

The authors report the case of an 82-year-old woman with a rare urinary bladder melanoma. She presented with terminal hematuria. Physical examination found bilateral inguinal lymphadenopathy. Ultrasound examination of the pelvis revealed a mass in the bladder. Urethroscopy revealed a dark-colored mass at the bladder neck. Histopathology of the biopsy showed primary melanoma of urinary bladder. Thoracoabdominal computed tomography found a lumbar vertebral metastasis. She refused to undergo chemotherapy or radiotherapy in medical oncology center. The patient died 5 months after the diagnosis. The epidemiology, diagnosis, prognosis, and disease management aspects are discussed through a review of the literature.

**Key words:** Histopathology, melanoma, metastasis, urinary bladder

## INTRODUCTION

Primary malignant melanoma of the urinary bladder is a very rare entity.<sup>[1]</sup> Approximately 30 cases have been reported in the literature.<sup>[2]</sup> The incidence of melanoma of the urinary tract is not well reported. The skin is the most common site for melanoma and common sites of visceral/mucosal melanoma is gastrointestinal tract.<sup>[2-4]</sup> The purpose of this study was to present a case and investigate the epidemiology, diagnosis, prognosis, and disease management aspects through a review of the literature.

## CASE REPORT

An 82-year-old woman with no medical history, initially consulted for terminal hematuria. Physical examination revealed a bilateral inguinal lymphadenopathy. Dermatologic, otorhinolaryngologic, ophthalmologic, and proctologic evaluations were negative. Cystoscopy revealed a dark

pigmented mass with varying dimensions. Mucosal layer surrounding the tumor had a dark brown appearance, while the mucosa distant from the lesion had a pinkish-white color. Immunohistochemical studies confirmed the diagnosis. Imaging for staging, which included abdominal ultrasound, chest X-ray, and a thoracoabdominopelvic computed tomography scan found a tumor and a lumbar metastasis [Figure 1]. Histopathological examination of the biopsy revealed a tumor composed of epithelial atypical, pigmented melanocytes interspersed with transitional epithelium [Figure 2]. Diagnosis of primary malignant melanoma of the urinary bladder was made. We informed the patient about the therapeutic options. She refused to undergo chemotherapy or radiotherapy in a medical oncology center. She died 5 months later.

## DISCUSSION

Primary melanoma of urinary bladder is an extremely rare disease. Few cases have been reported in the literature.<sup>[2]</sup> The

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average age at diagnosis is between 44 years and 81 years old.<sup>[1-4]</sup> It occurs equally in female and male.<sup>[2]</sup> The underlying etiology of urinary melanosis is not yet established.<sup>[3]</sup> The histogenesis is uncertain, and an origin from cells of the neural crest has been proposed.<sup>[2-4]</sup>

Hematuria is the most frequent clinical presentation. Cytology can show malignant cells containing melanin in the cytoplasm, spindle cells, and macrophages containing melanin.<sup>[4-6]</sup> Cystoscopy is the primary modality of diagnosis. It reveals a dark pigmented mass with varying dimensions. Mucosal layer surrounding the tumor mass has a dark brown

appearance, while the mucosa distant from the lesion has a pinkish-white color.<sup>[4-6]</sup>

Diagnosis is made with histopathological examination of the biopsy specimen. Immunohistochemical studies shorten and facilitate diagnostic work-up. Microscopic examination after biopsy of the urinary bladder revealed atypical melanocytes, spindled or epithelioid cells associated necrosis and mitotic figures.<sup>[2,3,7]</sup>

Ainsworth *et al.*<sup>[8]</sup> as well as Stein and Kendall<sup>[9]</sup> postulated the criteria for considering a melanoma of the urinary bladder to be a primary lesion:

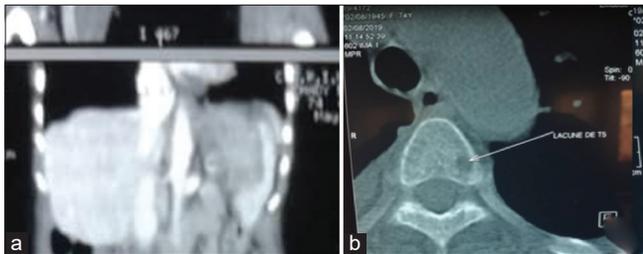
- No history of previous cutaneous lesion;
- No evidence of regressed cutaneous malignant melanoma;
- No evidence of other visceral primary melanoma;
- Pattern of recurrence should be consistent with the region of initial malignant melanoma;
- Margins of bladder lesion should contain atypical melanocytes similar to those seen in the periphery of primary mucous membrane lesions.

To the knowledge of the author, there is no consensus of the best management option.

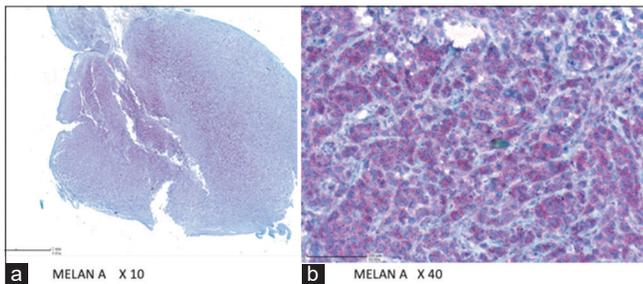
The various treatment options have been reported are transurethral resection of bladder tumor, interferon- $\alpha$ , and intravesical instillation of Bacillus Calmette–Guerin, chemotherapy, local excision, radiotherapy and chemotherapy, cystectomy and radiotherapy, partial cystectomy, and radical cystectomy.<sup>[7,8-14]</sup>

Radical surgery seemed to be the therapy of choice, although to date none of the patients survived more than 3 years despite cystectomy characterizing the poor prognosis of the tumor.<sup>[8]</sup>

Despite treatment alternatives including transurethral resection, partial and radical cystectomy, radiotherapy,



**Figure 1:** Computed tomography scan found a bladder tumor (a) and lumbar metastasis (b)



**Figure 2:** Hematoxylin and eosin staining showing melanosis and not melanoma: This shows light brown powdery pigments to dark brown globules which are mainly present in the cytoplasm, partially or completely obscuring the nuclei

**Table 1:** Some of the cases of primary malignant melanoma of bladder reported in the literature with treatment and outcome

Authors and publication references	Age (in years)	Sex	Treatment	Follow-up
Su and Prince <sup>[1]</sup>	61	Female	None	Died, 2 months
Pacella <i>et al.</i> <sup>[5]</sup>	82	Male	Transurethral resection of lesion	Died, 9 months
Ainsworth <i>et al.</i> <sup>[8]</sup>	65	Female	Cystectomy	Alive, 17 months
Baudet <i>et al.</i> <sup>[11]</sup>	7	Female	Partial cystectomy, TURBT, and intravesical BCG	Alive, 7 years
van Ahlen <i>et al.</i> <sup>[12]</sup>	81	Male	Cystectomy, radiotherapy, interferon-alpha	Died, 24 months
Kojima <i>et al.</i> <sup>[13]</sup>	63	Female	Chemotherapy	Died, 18 months
Lund <i>et al.</i> <sup>[14]</sup>	81	Female	Local excision, radiotherapy-chemotherapy	Alive, 15 months
Our case	80	Female	None	Died, 5 months

immunotherapy, and chemotherapy, overall it has a poor prognosis. Transurethral resection is curative for lesions restricted to the epithelium, and actually, the definitive cure could be achieved by radical cystectomy.<sup>[5,8,12]</sup> When surgery is contraindicated or chemotherapy is not tolerated because of its side effects, radiation therapy and immunotherapy with interferon alpha can be applied.<sup>[12]</sup> Table 1 resumes the treatment and prognosis of primary malignant melanoma of bladder.

Despite all these treatment alternatives, the prognosis is poor and the patients are generally lost within 3 years because of metastatic complications. Several prognosis factors of primary bladder melanoma have been mentioned: The size of tumor, the depth of invasion into the muscle, and presence of metastatic lesions.

## CONCLUSION

Primary melanoma of the urinary bladder is a rare lesion. There is no consensus opinion regarding the treatment. Almost all reported cases have been fatal; in view of this, it would be recommended that oncologists and urologists should report their cases of primary melanoma of the urinary bladder and they should conduct a multicenter trial of treatment options aimed at improving the prognosis of this fatal lesion.

## CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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