

# Acute Obstructive Renal Failure Secondary to Primary Bladder Melanoma

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## ABSTRACT

Primary bladder melanoma is present in 0.2% of all melanomas and has an aggressive behavior in 70%. In most of the 26 cases published, the prognosis is poor despite surgical treatment. The objective is to present a new case of primary melanoma of the bladder that debuts with obstructive acute renal failure secondary to tumor infiltration of the bladder trigone, the diagnosis, treatment, evolution, and review of literature.

**Key words:** Cystectomy, primary bladder melanoma, renal failure

## BACKGROUND

Bladder melanoma appears more frequently as metastasis of a cutaneous melanoma being present in up to 18% of patients who died due to metastatic melanoma.<sup>[1]</sup> It is also described as a primary tumor of the bladder in <0.2% of all melanomas.<sup>[2]</sup> About 70% of published cases of primary bladder melanoma infiltrate the muscularis propria.<sup>[1]</sup> Radical cystectomy plus urinary derivation is the treatment that can improve survival.<sup>[3]</sup> In most of the 26 cases published, to date, the prognosis is poor despite surgical treatment, chemotherapy, and immunotherapy.<sup>[1,4]</sup>

### Objective

The objective of this study was to present a new case of primary melanoma of the bladder that debuts with obstructive acute renal failure secondary to tumor infiltration of the bladder trigone.

## CASE REPORT

An 86-year-old male patient with pathological history of hypertension, mitral and aortic insufficiency, hiatus hernia,

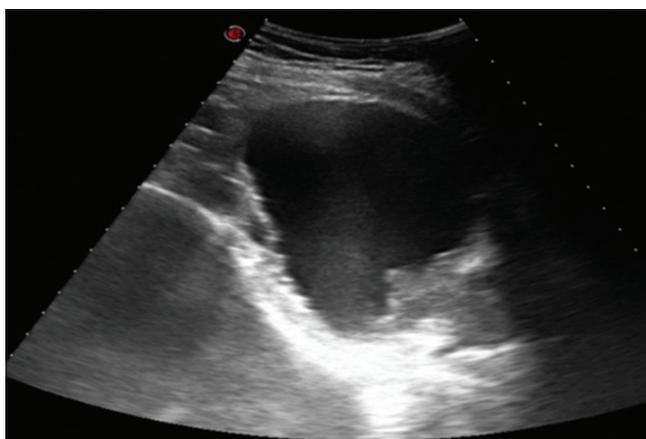
left inguinal herniorrhaphy, generalized osteoarthritis, and bilateral knee prosthesis carrier was attended at the emergency department due to gross hematuria being necessary bladder catheterization and continuous bladder lavage with physiological serum. Blood analysis showed acute renal failure with creatinine of 11.64 mg/dl. The patient got worse quickly with congestive heart failure, paroxysmal atrial fibrillation, and fever of 38 and was evaluated urgently by internal medicine. The reno-vesico-prostatic ultrasound reported the presence of thickening of the posterior wall of the urinary bladder and bilateral ureterohydronephrosis [Figure 1].

Urethrocystoscopy was performed, confirming the presence of a 5 cm mass in the trigone and posterior side of the bladder, with a solid appearance and easy bleeding that did not allow to view of the ureteral meatus. Due to the nonimprovement of renal function with medical treatment and the presence of ureterohydronephrosis, it was decided to place right percutaneous nephrostomy under local anesthesia. With partial improvement of renal function, after the anesthetic evaluation, a complete transurethral resection was performed in depth of the infiltrating bladder neoplasm that occupied all the trigone and posterior wall. The post-operative period was favorable with improvement of renal function and resolution

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**Figure 1:** Bladder ultrasound: Presence of thickening of the posterior wall of the urinary bladder

of hematuria, being discharged 12 days after admission with the bladder catheter and right nephrostomy.

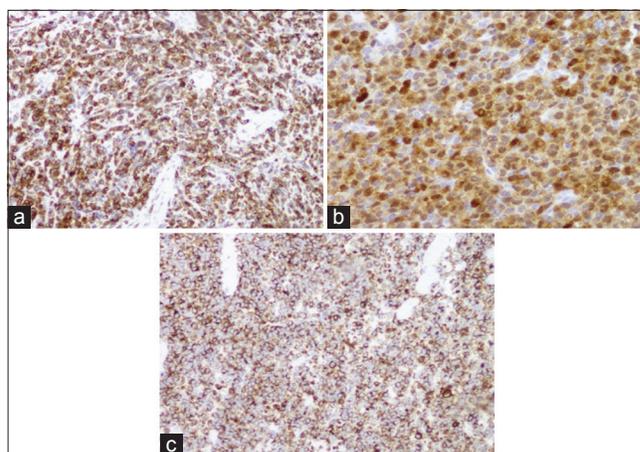
The anatomopathological report described the presence of numerous tissue fragments that grouped measured 6 cm × 6 cm × 2 cm and weighed 25.8 g. Microscopically, there were polygonal cells with nuclear pleomorphism, many mitosis, and intracellular melanin deposits. The immunohistochemical study was positive for S100, Melan-A, and Human Melanoma Black-45 (HMB-45) and negative for cytokeratin 7 (CK7), CK20, and prostate-specific antigen, confirming the diagnosis of extensive tumor infiltration due to malignant melanoma [Figure 2a-c].

In the extension study with abdominal and thoracic computed tomography (CT) scan [Figure 3], the presence of visceral melanoma or distant dissemination was not found. On physical examination, there were no cutaneous lesions suspected of melanoma in other locations. The ureteral catheter was removed 2 weeks after surgery with correct micturition, but the nephrostomy could not be removed because when closing it presented lumbar pain and rise in creatinine.

The performance status of the patient, age, and his morbidity conditioned the decision to be a candidate for follow-up by the palliative care unit and periodic nephrostomy replacements. At 3 months, he presented progressive deterioration of renal function with poor general condition and respiratory insufficiency being exitus.

## DISCUSSION

Bladder melanoma is considered primary when it cannot be demonstrated in other locations such as the skin or visceral.<sup>[3]</sup> The age at the time of diagnosis ranges from 34 to 84 years, the age of our patient was 86, and the distribution by sex is homogeneous.<sup>[2]</sup> The usual clinical manifestations include gross hematuria and urinary symptoms such as



**Figure 2:** Immunohistochemical study: (a) Melan-A, (b) S-100, (c) HMB-45



**Figure 3:** Abdominal CT-scan: Bilateral ureterohydronephrosis

pollakiuria, dysuria, and acute urinary retention but do not allow suspecting the diagnosis.<sup>[1,5,6]</sup> The diagnostic tests used are renovesicoprostatic ultrasound, urethrocystoscopy, and urinary cytology. For the definitive diagnosis, transurethral resection of the tumor tissue is mandatory and the anatomopathological study can objectify the presence of different histological patterns such as elongated epithelioid cells, small diffuse cells, polygonal forms and mixed variant,<sup>[5]</sup> with necrosis, nuclear pleomorphism with numerous mitosis, and intracellular melanin deposits.<sup>[1]</sup> Immunohistochemistry confirms the diagnosis with positivity for S100, Melan-A, and HMB-45.<sup>[7-9]</sup>

Depending on the performance status of the patient, age, and comorbidity, there are different options of the treatment. Radical cystectomy plus urinary diversion, partial cystectomy, second transurethral resection, chemotherapy, or immunotherapy may be considered. Radiotherapy could only be considered as a palliative treatment for persistent

hematuria.<sup>[1]</sup> The only case of cure at 12 years of follow-up was reported in a 44-year-old woman who underwent conservative treatment with transurethral resection and new biopsy of the tumor base at 3 months.<sup>[3]</sup> To increase survival, radical cystectomy should be considered whenever possible.<sup>[7]</sup>

Regarding follow-up, periodicity is not established, but during the 1<sup>st</sup> year, urethroscopy, thoracoabdominal CT scan, and physical examination every 3 months are recommended.<sup>[7]</sup>

An ophthalmological and skin physical examination should always be performed as well as a visceral examination to rule out the presence of a melanoma that could be primary to offer the patient the corresponding treatment.<sup>[7]</sup>

The clinical criteria, established in 1976 by Ainsworth *et al.*,<sup>[10]</sup> can help us in the differential diagnosis between primary and metastatic bladder melanoma. Those criteria are demonstrated the presence of atypical melanocytes in the margin of tumor resection, discard cutaneous or visceral melanoma present or have suffered spontaneous regression, and the presence of a cell proliferation pattern corresponding with a primary tumor.<sup>[3,7,10]</sup>

## CONCLUSION

Primary bladder melanoma is an aggressive tumor with bad prognosis. This cancer can debut with macroscopic hematuria and voiding symptoms but also with obstructive uropathy due to tumor invasion of the bladder trigone. If acute renal failure appears, an urgent urinary diversion is mandatory and in spite of this the patient may die.

A multidisciplinary evaluation is required and it is mandatory to rule out the presence of cutaneous or visceral melanoma to offer the patient the best possible care.

Whenever possible, radical cystectomy plus urinary diversion should be assessed.

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