CLINICAL CASE

Bladder melanoma: a case report and literature review


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KEYWORDS
Melanoma of the bladder; Genitourinary melanoma; Malignant non-urothelial neoplasia of the bladder

Abstract Melanoma of the bladder is a rare malignant neoplasia. Isolated primary cases have been reported, but the most common presentation is metastatic disease. The diagnosis of bladder melanoma is complicated and requires a thorough interdisciplinary study of the patient. In addition, there are no well-standardized histopathologic criteria confirming its primary site. Presented herein is the case of a 42-year-old man with bladder melanoma that manifested as suprapubic pain, dysuria, and weight loss. Both the clinical and histopathologic diagnoses were difficult and it was not possible to determine whether the lesion was a primary one, due to the advanced stage of presentation, as well as to the lack of complementary studies.

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PALABRAS CLAVES
Melanoma de vejiga; Melanoma genitourinario; Neoplasia maligna no urotelial de vejiga

Melanoma en vejiga, reporte de un caso y revisión de la literatura

Resumen El melanoma en vejiga es una neoplasia maligna poco frecuente, se han reportado casos aislados como sitio primario y la presentación más común es la metastásica. El diagnóstico del melanoma en vejiga es complicado y requiere de un estudio exhaustivo interdisciplinario del paciente, además, no se encuentran bien estandarizados los criterios histopatológicos que confirman su sitio primario. Se presenta el caso de un hombre de 42 años con melanoma en vejiga que inició con dolor suprapúbico, disuria y pérdida de peso. El diagnóstico resultó difícil, tanto clínico como histopatológico, y no fue posible identificar si se trató de una lesión primaria debido al estado avanzado de presentación, así como a la falta de estudios complementarios.

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Introduction

Melanoma is a malignant neoplasia made up of melanocytes, which are cells that embryologically originate in the neural crest and then migrate to the skin, mucosa, and different anatomic sites. Melanoma is the third most common malignant neoplasia of the skin and typically presents as a pigmented asymmetric lesion with irregular edges, in the shape of a macule, papule, or nodule. However, it can present at sites other than the skin, such as the mucosa of the oral cavity, the anogenital mucosa, the meninges, the esophagus, and the eye. The bladder is a rare presentation site and in general it is secondary to metastasis originating in the skin. Thus, it requires a thorough analysis of the skin and ruling out of other organs of frequent presentation to determine whether melanoma originates in the bladder, and even so, in the majority of cases it is not possible to confirm primary origin.

Case presentation

A 42-year-old man with an unremarkable past medical history presented with intense colicky suprapubic pain, dysuria, and a 10-kg weight loss in 4 months. Later, post-micturition dripping of blood, and nausea and vomiting were added. Physical examination revealed pain upon palpation of the hypogastrium, right inguinal adenomegaly, hydrocele, and preputial edema. Abdominal ultrasound reported no bladder lesions. A computerized axial tomography scan only showed bladder wall thickening. The patient underwent cystoscopy and bladder biopsy and the histopathologic study reported high-grade transitional cell carcinoma. Two months later, the patient developed an acute postrenal kidney lesion requiring kidney function support with hemodialysis. Laboratory studies reported leukocytes 9,800/μL, hemoglobin 9.6 g/dl, hematocrit 29.4%, platelets 361,000/μL, creatinine 5.62 mg/dl, uric nitrogen 28 mg/dl, urea 59.92 mg/dl, and prostate-specific antigen 0.93 ng/ml.

Cystoprostatectomy was performed and the intraoperative findings were peritoneal implants and enlarged pelvic lymph nodes.

The anatomopathologic study reported that the bladder and prostate were brown and of firm consistency and had irregular external surfaces with poorly defined edges; when cut, a diffuse, maximum 3 cm thickening of the bladder wall and a whitish nodular bladder mucosa were identified (fig. 1). Microscopic study revealed an ulcerated neoplasia made up of polygonal cell nests with abundant, clear cytoplasm, a pleomorphic vesicular central nucleus, a prominent

Figure 1 Surgical specimen. The cut bladder shows diffuse thickening of the wall and mucosa with a multinodular aspect.

Figure 2 a) Histopathology section shows transitional epithelium of the bladder and malignant neoplasia with a nodular pattern in the lamina propria and muscularis propria (x50). b) Malignant neoplasia with a solid and nodular pattern invading the muscularis propria layer of the bladder (x50). c) The neoplastic cells show great nuclear pleomorphism, prominent nucleolus, and mitosis (x400).
eosinophilic nucleolus and absence of pigment (fig. 2). The immunohistochemical study showed a neoplasia of melanocytic origin that was positive for melan-A, HMB45, and PS100 (fig. 3) and negative for CK7, CK20, and prostate-specific antigen. The final histopathologic diagnosis was malignant melanoma in the bladder and prostate and it could not be determined whether it was a primary tumor.

The patient died a few days after surgery.

Discussion

Primary melanoma of the genitourinary apparatus is extremely rare, representing approximately 0.2% of all melanomas,2,6 and the urethra and penis are its most common locations. Up to 2013, fewer than 20 cases of primary melanoma in the bladder have been reported in the literature6 and in all the cases, patient age ranges from 52 to 82 years. Involvement has been the same for men and women.7

Clinically, the patients usually present with gross hematuria, dysuria, and symptoms related to metastasis.2,7 Our patient clinically presented with hematuria, dysuria, and weight loss.

A pigmented exophytic lesion can be seen through cystoscopy that varies from 1 to 8 cm and on occasion is diffuse,8 making detection difficult through imaging studies, as occurred in our case. Histologically these lesions present as tumor cell nests that can infiltrate transmurally. The neoplastic cells are polygonal or fusiform, with a pleomorphic nucleus, prominent nucleolus, and sometimes with the presence of melanin,9-10 atypical mitoses, and necrosis.

Diagnosis of bladder melanoma must be confirmed through immunohistochemical reactions. The antibodies that are positive for melanoma are S-100, HMB-45, and melan-A.9-11

The criteria for determining primary bladder melanoma are the absence of suspicious cutaneous lesions, ruling out the recurrence of melanoma in skin with the help of a Woods lamp, the absence of another primary visceral melanoma, and at the microscopic level, the infiltration pattern, added to the presence of atypical melanocytes in the tumor margins.8,12 Nevertheless, Tepeler et al. comment that not all the cases reported as primary bladder melanoma fit these criteria.8 It was not possible to determine whether our case was a primary or a metastatic lesion due to the lack of complementary studies and the advanced disease stage.

Radical cystectomy is the treatment for patients with primary melanoma of the bladder that offers high curative probabilities. In a review of case reports, this treatment enabled longer survival, with a mean of 10 months, compared with partial cystectomy, transurethral resection, and chemotherapy.8,13 However, outcome is poor and patients generally die within three years of diagnosis.6,8 Our patient was diagnosed in an advanced stage of the disease, which complicated our defining the primary presentation site and limited medical and surgical management.

Conclusions

Melanoma is frequent in the skin and mucosae, but other primary sites are not common. Cases in the genitourinary tract are extremely rare and largely metastatic. Clinical presentation is variable and therefore a thorough and interdisciplinary study of the patient is important and should include anatomopathologic study supported by a complete immunohistochemical panel to make a precise diagnosis.

Ethical responsibilities

Protection of persons and animals. The authors declare that no experiments were performed on humans or animals for this study.

Data confidentiality. The authors declare that no patient data appear in this article.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Financial disclosure

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Conflict of interest

The authors declare that there is no conflict of interest.

References