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Penile Skin as a Rare Location of Melanoma in the Balkan Region: A Case Report

Pele Peniana Como Localização Rara de Melanoma na Região dos Balcãs: Um Relato de Caso

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ABSTRACT

Skin melanoma is very rarely found in the genital region. Additionally, out of all penile skin malignancies, melanoma is one of the rarest, with no cases reported before in the Balkan region. A 68-year-old male presented with atypical and irregular pigmented skin lesions on his left flank and penile shaft. After dermoscopy and radiological work-up, both lesions were completely excised, with pathological examination revealing a high-grade dysplastic nevus with nodular melanoma in the penile location. Wide re-excision was performed one month later, followed by skin reconstruction with a rotation cutaneous flap. No postoperative complications, long-term recurrence signs, nor local or distant metastases were observed. As a very rare case of this kind of condition in the Balkan region and globally, this is the first case of penile skin melanoma described in Serbia, additionally emphasizing the importance of thorough systematic clinical examination and conducting organ-preserving surgery.
Keywords: Dermoscopy; Melanoma; Penile Neoplasms; Skin Neoplasms

RESUMO

É extremamente raro encontrar o melanoma da pele na região genital. Além disso, de todas as neoplasias malignas da pele peniana, o melanoma é uma das mais raras, não havendo nenhum caso semelhante descrito anteriormente na região dos Balcãs. Um homem de 68 anos recorreu ao médico por apresentar lesões cutâneas pigmentadas atípicas e irregulares no flanco esquerdo e na haste peniana. Após dermatoscopia e exames radiológicos, ambas as lesões foram completamente excisadas, tendo o exame histológico revelado um nevo displásico de alto grau com melanoma nodular na localização peniana. Foi realizada uma reexcisão ampla um mês depois, seguida de reconstrução da pele por retalho de rotação. Não foram observadas complicações pós-operatórias, sinais de recidiva a longo prazo, nem metástases locais ou à distância. Sendo um caso muito raro deste tipo de patologia na região dos Balcãs e no mundo, este é o primeiro caso de melanoma da pele peniana descrito na Sérvia, realçando ainda mais a importância do exame objetivo sistemático completo e da realização de cirurgia preservadora de órgãos.
Palavras-chave: Dermatoscopia; Melanoma; Neoplasias da Pele; Melanoma; Neoplasias do Pénis

INTRODUCTION

One of the rarest melanoma sites in males is the genitourinary tract (0.1% of all melanomas).[1] From the other point of view, among all penile malignancies, melanoma accounts for less than 1.4%,[2] and, based on its precise location, can be considered cutaneous or mucosal.[3,4] It is reported that penile melanoma is most commonly located on the glans (67%), which is followed by the foreskin (13%), urethral meatus (10%), and penile sheath (7%).[5,6]

Besides the fact that the disease is very rare, it usually has a poor prognosis resulting from the advanced stage at the time of diagnosis and the aggressiveness of the tumor.[4]

A case of penile melanoma has never been previously reported in the Serbian population. Therefore, this report aimed to present such a case of melanoma on the penile shaft and a successful organ-preserving surgical treatment in an adult patient.

CASE REPORT

A 68-year-old male smoker was referred to the dermatology department for an atypical skin lesion located on the left flank region. His personal history included hypertension, while the family history of malignancies was negative. The physical examination revealed a clinically suspicious pigmented skin lesion on the penile shaft, previously reported by the patient as having been present for the previous ten years and that it was small, with an increase in size and changes in color during the last few years. The mole was 31 x 21 mm in diameter, asymmetric in two axes, black, red, and blue-grey in color. Inguinal lymphadenopathy was not observed. Dermoscopy showed a slightly elevated lesion with irregular circular and dotted formations. Other dermoscopic criteria for melanoma were not observed. The usual blood work-up, pelvic magnetic resonance imaging, abdominal, inguinal, axillary, and cervical ultrasonography, as well as chest X-ray showed

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no pathological changes, other than the one located on the penile shaft skin, suggesting a consensual decision made by the medical oncologist, oncological surgeon, and radiologist to perform a complete excision of the lesion without sentinel lymph node biopsy.

The lesion was completely excised and examined, showing a high-grade dysplastic nevus with nodular melanoma. The histopathological features of the excised specimen were as follows: Breslow 1.41 mm, Clark 3, with a mitotic index over 2 and the presence of microsatellites, classified as pathohistological local stage T2b. The immunohistochemical analysis revealed positive staining for Melanin A+, S100 +, and HMB-45. No lympho-vascular or perineural invasions were observed.

One month after the first procedure the excision site was additionally widely excised to a 10 mm margin, followed by skin defect reconstruction with a rotation cutaneous flap (Fig. 1). During the postoperative recovery, no complications were observed. The subsequent follow-up examinations every three months showed no signs of recurrence or presence of local or remote metastases, until the time of writing.

DISCUSSION

The cutaneous penile shaft melanoma comprises 9% of all penile cases.[2] To the best of our knowledge, this report represents one of the first cases in the Balkan region[7] and the first verified and reported case of penile melanoma in Serbia.

In addition to genetic and constitutional characteristics, which are well-known etiological factors, its development is highly correlated with exposure to UV radiation, particularly intermittent sun exposure,[8] which makes the penile location less common. It usually presents as a painless, pigmented lesion that gradually grows larger and, at the advanced stages, ulcerates with the development of local inguinal lymphadenopathy.[3,4] A poor prognosis is associated with delayed diagnosis and the aggressiveness of the tumor,[3,4] with the presence of ulceration, high Breslow, mitotic and Clark indices, irregular growth pattern, presence of satellite nodules, lymphovascular invasion, tumor thickness greater than 3.5 mm, diameter greater than 15 mm, and regression pattern being the most important poor prognostic factors.[9]

Due to its rarity, no specific guidelines have been recommended so far for treating penile melanoma. Guidelines for treating penile malignancies in general do not differ depending on the type of cancer but depend on its invasiveness and stage. Surgical treatment of penile melanoma varies depending on the stage of the lesion.[10] Melanomas *in situ* and melanomas that have a Breslow index under 0.75 mm are widely excised. In larger lesions, partial or total penectomy remains the standard of surgical treatment. Sentinel lymph node biopsy followed by inguinal lymphadenectomy is usually recommended if there is micro-metastatic disease or inguinal lymphadenectomy,[11] neither of which was observed in our case. In the case of metastasis of the inguinal lymphatic nodes, radical lymphadenectomy does not improve the chances of survival.[10]

Early diagnosis led to positive outcomes in the presented case during the two-year follow-up period after the organ-preserving surgical treatment and no recurrent disease or palpable lymph nodes were detected.

Penile melanoma has a poor prognosis due to late diagnosis and the presence of negative prognostic factors. Median survival time is 1.7 years for disease with inguinal lymphadenopathy or remote metastasis at the time of diagnosis. For localized disease without a palpable inguinal lymphatic node at first examination, median survival time is 2.8 years from the moment of diagnosis.[4] Therefore, early detection is crucial for improving survival rates, but the hidden location often delays diagnosis. Also, diagnosing this condition in its early stages may be impacted by the patient's willingness to attend an appointment (as a result of possible benign initial aspects of the disease and social/cultural aspects) and physicians' awareness of genital diseases, both of which may lead to delay in diagnosis and compromising outcomes.[12,13] Therefore, efforts should be made in order to remove any hurdles from both the patients' and physicians' side in order to ensure detection of such a malignancy in its early stages.

CONCLUSION

The unusual location makes penile melanoma a clinical challenge. However, despite the rarity of the location, it is important to conduct a thorough systematic clinical examination to prevent misleading diagnosis. Proper diagnosis in early stages and evidence-based choice of treatment are extremely important for successful management. Since surgical excision remains the standard of care, it is important to conduct organ-preserving surgery for penile melanoma whenever possible in order to prevent a decrease in these patients' quality of life.

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AUTHOR CONTRIBUTIONS

JG, AL, MLB, JB, MN: Conception and design of the work, data acquisition, analysis and interpretation, drafting and critical review of the manuscript.

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All authors approved the final version to be published.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in October 2024.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

PATIENT CONSENT

Obtained.

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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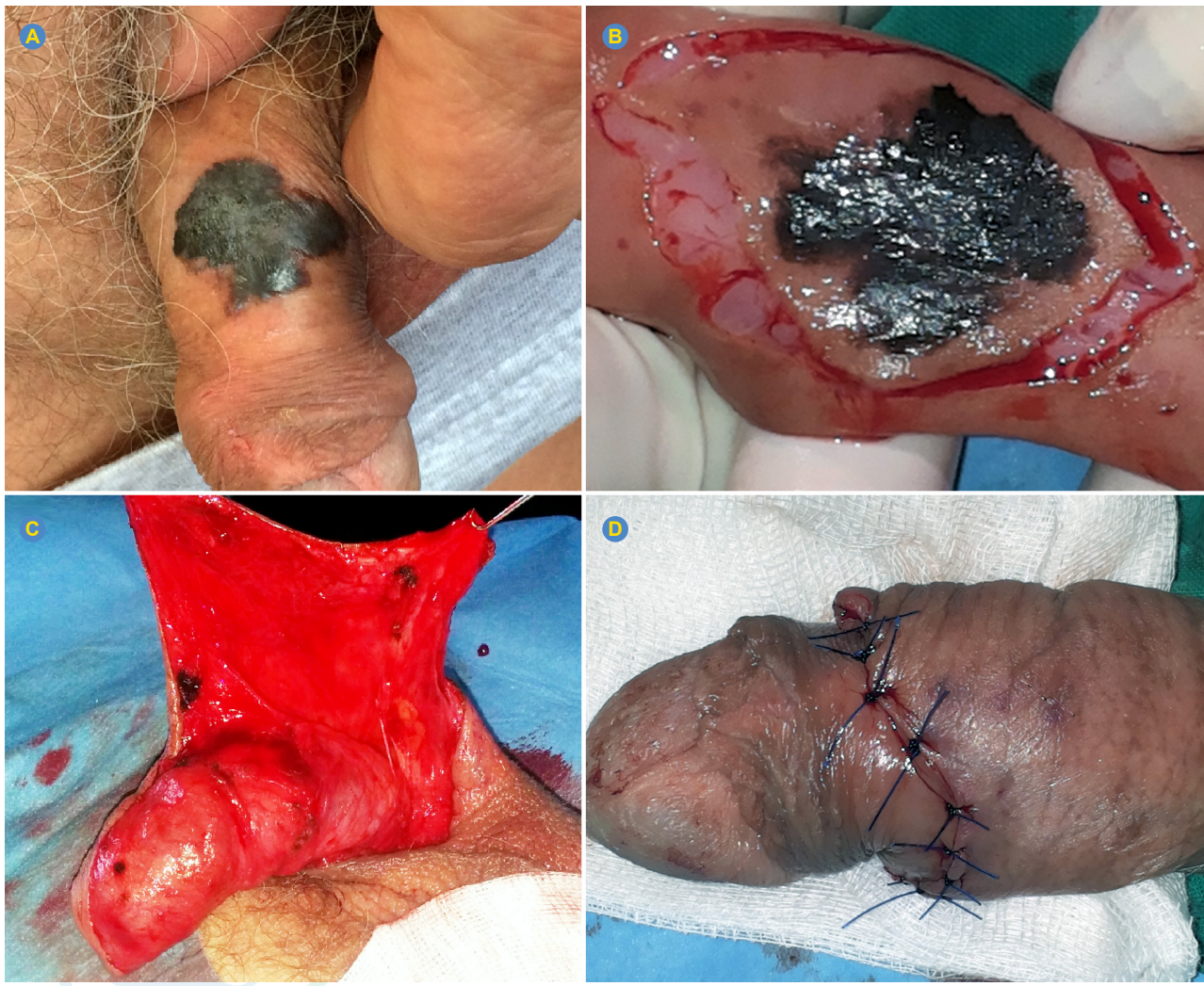

Figure 1 – Clinical presentation of the patient: (A) Initial clinical examination; (B) Initial surgical treatment; (C) Additional surgical excision (second surgical treatment); (D) Final result