ISSN: 2755-0168

Journal of Biotechnology & Bioinformatics Research

SCIENTIFIC Research and Community

Case Report

Open Access

Case Report: Vaginal Melanoma

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ABSTRACT

Vaginal melanoma is extremely rare, accounting for less than 1% of genital melanomas. Its diagnosis is often delayed due to the rarity of specific symptoms.

We report the case of a 50-year-old postmenopausal woman who presented with metrorrhagia and a vaginal mass, associated with weight loss. Examination revealed a brownish and hemorrhagic lesion in the vagina, confirmed as vaginal melanoma by biopsy. The melanoma was stage II according to FIGO. The patient underwent a tumorectomy and received adjuvant pelvic and inguinal radiotherapy. After five months, she was deemed in complete remission.

Vaginal melanoma, although scarce, requires particular vigilance due to its non-specific symptoms. Treatment is primarily surgical with adjuvant radiotherapy. New therapies such as immunotherapy show promising potential but require further research.

Early detection and a multidisciplinary approach are crucial to improving the prognosis of vaginal melanoma. Further research is needed to optimize treatment strategies.

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Received: September 01, 2024; **Accepted:** September 05, 2024; **Published:** September 16, 2024

Introduction

Vaginal melanoma is an extremely rare form of melanoma, accounting for less than 1% of genital melanomas and less than 3% of melanomas of the genital tract. Its diagnosis is often delayed due to the rarity of specific symptoms and the unusual location [1,2].

Case Report

This case involves a 50-year-old postmenopausal woman, married, and mother of three children, with no significant medical history. She was referred to our department for spontaneous, low-volume metrorrhagia that had been occurring for the past three months, accompanied by the discovery of a vaginal bulging mass during self-palpation, all within a context of weight loss and a general decline in health.

A gynecological examination revealed a vegetative, brownish, hemorrhagic lesion measuring 3 x 3.5 cm, located in the lower two-thirds of the anterior vaginal wall, with multiple palpable inguinal lymphadenopathy (Figure). A biopsy of the mass was performed, and histopathological analysis confirmed the diagnosis of vaginal melanoma, with positive expression of the CD117 marker, HMB-45, S-100 and Melan-A protein on immunohistochemistry.

Rectoscopy and cystoscopy revealed no abnormalities. Thoraco-abdomino-pelvic CT scan showed a budding lesion occupying two-thirds of the vaginal cavity, with heterogeneous enhancement after contrast injection, without infiltration of perivaginal fat or distant metastases. The final diagnosis was primary malignant melanoma of the vagina, classified as stage II according to the International Federation of Gynecology and Obstetrics (FIGO).

The patient refused radical surgery by exenteration and instead underwent a simple tumorectomy. Analysis of the surgical specimen confirmed the presence of malignant melanoma of the vagina, with deep resection margins partially invaded by the tumor.

She subsequently received adjuvant pelvic radiotherapy at a dose of 65 Gy, as well as prophylactic bilateral radiotherapy of the inguinal lymph nodes at a dose of 45 Gy, distributed over 18 sessions. The radiotherapy was well tolerated. Currently, the patient is in complete remission after one year of follow-up.

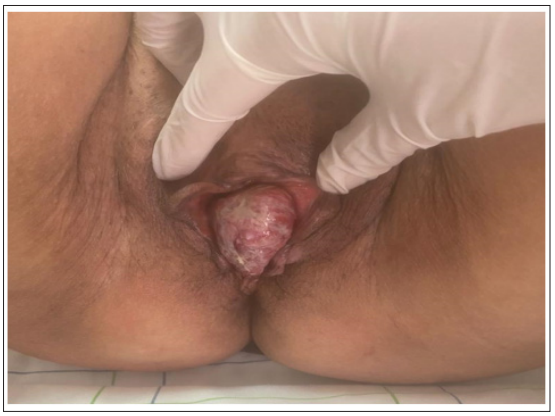

Figure: Image of the protruding vaginal tumor discovered in our patient

Discussion

Vaginal melanoma is a rare clinical entity, presenting several challenges due to its scarcity. While cutaneous melanomas are well-studied, melanomas affecting the genital mucosa, particularly the vagina, remain poorly understood. This case underscores the need to consider melanoma in the differential diagnosis of abnormal vaginal bleeding in older women. Epidemiological data show that vaginal melanoma primarily occurs in postmenopausal women, but cases in younger women have also been reported. Therefore, physicians need to be wary of it regardless of age [3,4].

The diagnosis of vaginal melanoma is often delayed, as initial symptoms such as vaginal bleeding, dyspareunia, or the presence of a vaginal mass can be attributed to more common gynecological conditions like fibroids or polyps. The non specificity of symptoms makes early diagnosis more challenging. In our case, its clinical presentation - vaginal bleeding and a pigmented lesion- is consistent with descriptions found in the literature [5,6]. For example, Smith et al. report similar symptoms, while Jones et al. highlight that some patients may be asymptomatic, with the tumor being discovered only during routine examinations [3,5]. In the absence of pathognomonic signs, diagnosis relies on biopsy and histopathological and immunohistochemical analysis. Markers such as HMB-45, S-100, and Melan-A protein -used in our case- are essential and standar practice for confirming the diagnosis of melanoma and differentiating it from other vaginal tumors like squamous cell carcinoma or adenocarcinoma [7]. Other studies corroborate their utility in distinguishing melanoma from other vaginal tumors [8]. However, imaging techniques for staging may be useful.

In fact, some systematically recommend MRI and CT scans, while others limit themselves to clinical examination and biopsy. In our case, no imaging technique was performed.

The treatment of vaginal melanoma is not standardized due to the limited number of cases and the absence of specific clinical trials. Surgical management remains the most common method, as shown in our case and the work of Liu et al. [9]. However, surgical approaches vary: some studies recommend wide local excision, while others prefer total vaginectomies to reduce the risk of recurrence [6,10,11].

In terms of adjuvant treatment, radiotherapy and adjuvant chemotherapy have shown controversial results, with melanoma generally being poorly radiosensitive. However, studies have suggested potential benefits for local disease control [12]. As for chemotherapy, genital mucosal melanomas respond poorly to conventional treatments such as dacarbazine. Newer therapies, such as immunotherapy (nivolumab, pembrolizumab) and targeted therapies (BRAF/MEK inhibitors), have shown promising results in advanced cutaneous melanomas, but their role in vaginal melanoma remains to be established [13].

The prognosis for vaginal melanoma is generally poor, with a five-year survival rate estimated between 10% and 20% [14]. This prognosis is influenced by several factors, including tumor size, depth of invasion, and the presence of metastases at the time of diagnosis. Smaller, superficial melanomas have a better prognosis than larger, deeper tumors. However, the anatomical location of the vagina favors rapid dissemination, often worsening the prognosis[14,15].

Compared to other studies, our research presents similar limitations, such as the absence of specific guidelines and the reliance on case reports to guide clinical decisions. Recent studies emphasize the need for international collaboration to gather more data and establish robust recommendations [13]. Advances in biomarkers and targeted therapies offer promising prospects, although their application to vaginal melanoma still requires extensive research [8].

Conclusion

This case of vaginal melanoma highlights the clinical challenges associated with this rare and aggressive tumor. Early recognition and multidisciplinary management are crucial to improving outcomes for patients. However, further efforts are needed to standardize diagnostic and therapeutic approaches and to explore new therapeutic avenues to improve the prognosis of this challenging disease. Although rare, vaginal melanoma must be identified promptly to maximize survival chances. Management primarily relies on complete surgical excision, with rigorous follow-up to detect recurrences. Additional research is necessary to better understand this pathology and to develop effective treatment strategies.

Declarations

Guarantor of Submission: The corresponding author is the guarantor of submission.

Acknowledgements:
None.

Funding:
There are no funding sources to be declared.

Availability of Data and Materials:
Supporting material is available if further analysis is needed.

Competing Interests: The authors declare that they have no competing interests.

Consent for Publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Ethics Approval and Consent to Participate

Ethics approval has been obtained to proceed with the current study. Written informed consent was obtained from the patient for participation in this publication

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