Primary vaginal melanoma: a case report and literature review

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Summary

Background: Malignant melanoma of the vagina is a rare malignancy associated with high risk of recurrence, distant metastasis and short survival time. Due to the rarity of the disease, no prospective studies or validated treatment recommendations exist. *Case:* We describe the case of a 54-year-old patient with a locally advanced melanoma located on the anterior vaginal wall. At the time of diagnosis there was no evidence of nodal or distant metastasis. *Conclusion:* In view of retrospective data in the literature, we treated the patient with colpectomy in terms of a wide local excision only. A more radical approach, adjuvant radio- or chemotherapy did not seem to be justifiable since there are no data demonstrating prolonged survival.

Key words: Vaginal melanoma; Colpectomy.

Introduction

Malignant melanoma of the vagina accounts for only 0.3% of all melanomas in women [1, 2]. Less than 3% of primary vaginal tumors are malignant melanomas and they have the worst prognosis of all vaginal malignancies [3] with five-year-survival rates of 5-25% [1, 3-5]. The most common presenting sign is vaginal bleeding and locally advanced disease is frequently found at the time of first diagnosis [5, 6]. In the majority of cases pigmented melanomas are found; only 10-23% of the cases are amelanotic melanomas [5]. For diagnosis of malignant melanoma in unusual locations, immunohistochemical evaluation is useful. Espression of S100 protein is found in virtually all melanomas with low specificity. MART1 (melanoma antigen recognized by T cells) and MITF (microphthalmia transcription factor) are antibodies to melanocyte/melanogenesis related proteins and are very specific for cells of the melanocytic lineage. The combination of these antibodies leads to greater diagnostic accuracy as reviewed by Carson *et al*. [7]. Different surgical treatment options have been discussed in the past including wide local excision with or without sentinel node biopsy, pelvic lymphadenectomy, and more extensive surgical procedures such as exenteration of all organs involved. Radiotherapy has been reported as the exclusive treatment for locally advanced disease that was considered to be surgically unresectable. In addition, radiotherapy was applied as an adjuvant approach especially if the pathologic analysis revealed positive microscopic margins [3, 5, 8-11]. In the adjuvant setting, different chemotherapy regimens and immunotherapy have been administered [5, 12]. Surgical treatment was the only therapeutic procedure that was shown to prolong survival in retrospective analyses [5, 9, 13-14].

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Case Report

A 54-year-old Caucasian women, gravid 2, para 2, presented with four weeks of vaginal discharge. Her medical history included hysterectomy which had been done four years before for menopausal bleeding disorders. Examination revealed a healthy female in good general condition. The gynaecological examination showed a 3 x 3 cm pigmented and ulcerated lesion at the anterior vaginal wall (Figure 1a). Clinically, the lesion was about 1 cm thick and relocatable against the posterior wall of the urinary bladder. The lateral and posterior fornices appeared to be free of cancer and no superficial nodal involvement was observed. Representative biopsies of the lesion confirmed the presence of a malignant melanoma. The chest X-ray, abdomen and pelvic computed tomography (CT) gave no evidence of metastases or lymph node involvement. We performed a vaginal colpectomy (Figure 1b). Lymph node sampling was not performed. Histopathology of the entire specimen showed a tumor thickness of 1.6 cm and a maximum diameter of 2.5 cm with superficial ulcerations (Figure 2a-c). The lateral and deep tumor margins were clear. Tumor staging analogous to staging of skin tumors was pT4b. Immunohistochemical staining for S100 (Figure 2d) as well as for MART1 (Figure 2e) was strong and specific. We also found nuclear staining for MITF (Figure 2f). Proliferation rate, measured as Ki67-index, was about 50%.

Following the operation, the patient recovered uneventfully with excellent healing of the wound site. We recommended no further treatment and the patient is followed-up regularly. At the three-month follow-up visit, the patient was well with no evidence of recurrence.

Discussion

Malignant melanoma of the vagina is a rare tumor entity with less than 300 cases described in the literature. Most of the articles are case reports and a few small series with 35 cases at most. To our knowledge, there are no prospective data regarding therapeutic options. Most vaginal melanomas are diagnosed in postmenopausal women in their fifth and sixth decade [15]. For the majority of patients, vaginal melanoma is associated with poor

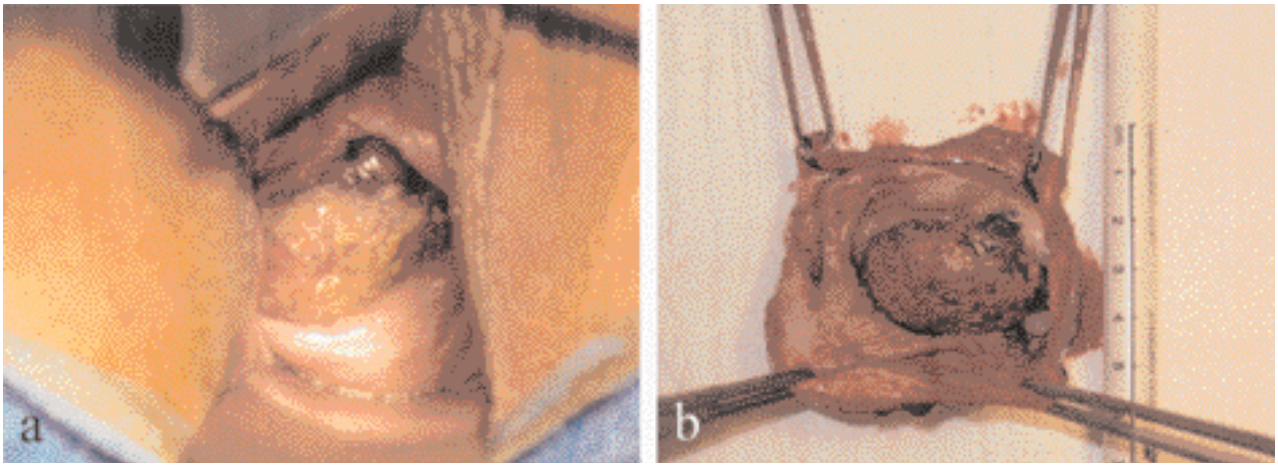

Figure 1. — Hyperpigmented lesion involving the anterior vaginal wall (a). Gross finding of the excised tumor after vaginal colpectomy (b).

clinical outcome. The median survival reported in a study of 35 cases was 20 months [5]. Histopathological staging of vaginal melanoma can follow the International Federation of Gynecology and Obstetrics (FIGO) system for vaginal carcinoma, the Breslow system or the TNM-staging system for skin tumors. Prognostic factors established for other tumor entities such as age, stage, depth of invasion, pigmentation, ulceration, and adjuvant therapy did not correlate with patient outcome in the study of Miner *et al*. [5]. Actually, pathologically negative or positive margins of resection did not correlate with recurrence-free survival in this study.

Surgical resection is considered the treatment of choice. Different methods such as wide local excision, colpectomy, radical resection with total abdominal hysterectomy and bilateral salpingo-oophorectomy, and even extenteration have been described. Van Nostrand *et al*. [14] found improved survival with radical surgery whereas most authors have stated that the type of surgery did not influence survival [5, 9, 13, 16]. Since the outcome of malignant vaginal melanoma is poor, most authors recommend avoiding radical surgery and favour local excision with the aim of complete resection. Regarding lymph node dissection, most authors do not recommend performing routine staging of the pelvic lymph nodes since nodal metastases are rare and the morbidity associated with lymphadenectomy is high [5, 16]. As an alternative to identify lymphatic metastasis without the morbidity of complete lymphadenectomy, sentinel node biopsy has been described [5, 17-19].

Radiation therapy has also been described to be effective in the treatment of vaginal melanoma. In the majority of reports, radiation therapy was applied for surgically unresectable disease or as adjuvant treatment in case of pathologically positive margins [5, 8, 20-22]. Radiotherapy as an alternative to surgery was recommended by Petru *et al*. [3] for patients with lesions less than 3 cm in diameter. Radiation therapy appeared to provide good local control in patients with surgically unresectable disease. The value of adjuvant radiation therapy cannot be evaluated considering the limited and only retrospective data available.

Most of the recurrences are distant, therefore different chemotherapy regimens and immunotherapy with interferon-γ or interferon α-2b have been discussed as treatment options for vaginal melanoma in the adjuvant setting [23, 24]. As yet, no prospective randomised trials have been completed. Therefore, we have no rationale for adjuvant chemo- or immunotherapy.

In conclusion, primary vaginal melanoma is a rare disease with limited prognosis. Complete surgical resection is the treatment of first choice and seems associated with prolonged overall survival. Primary radiation therapy should be reserved for patients with surgically unresectable disease. There is no evidence for elective lymph node dissection. The value of sentinel lymph node biopsy, adjuvant radiation therapy, chemo- or immunotherapy has not been evaluated yet. Due to the rarity of the disease, multicenter trials will be required to answer these questions.

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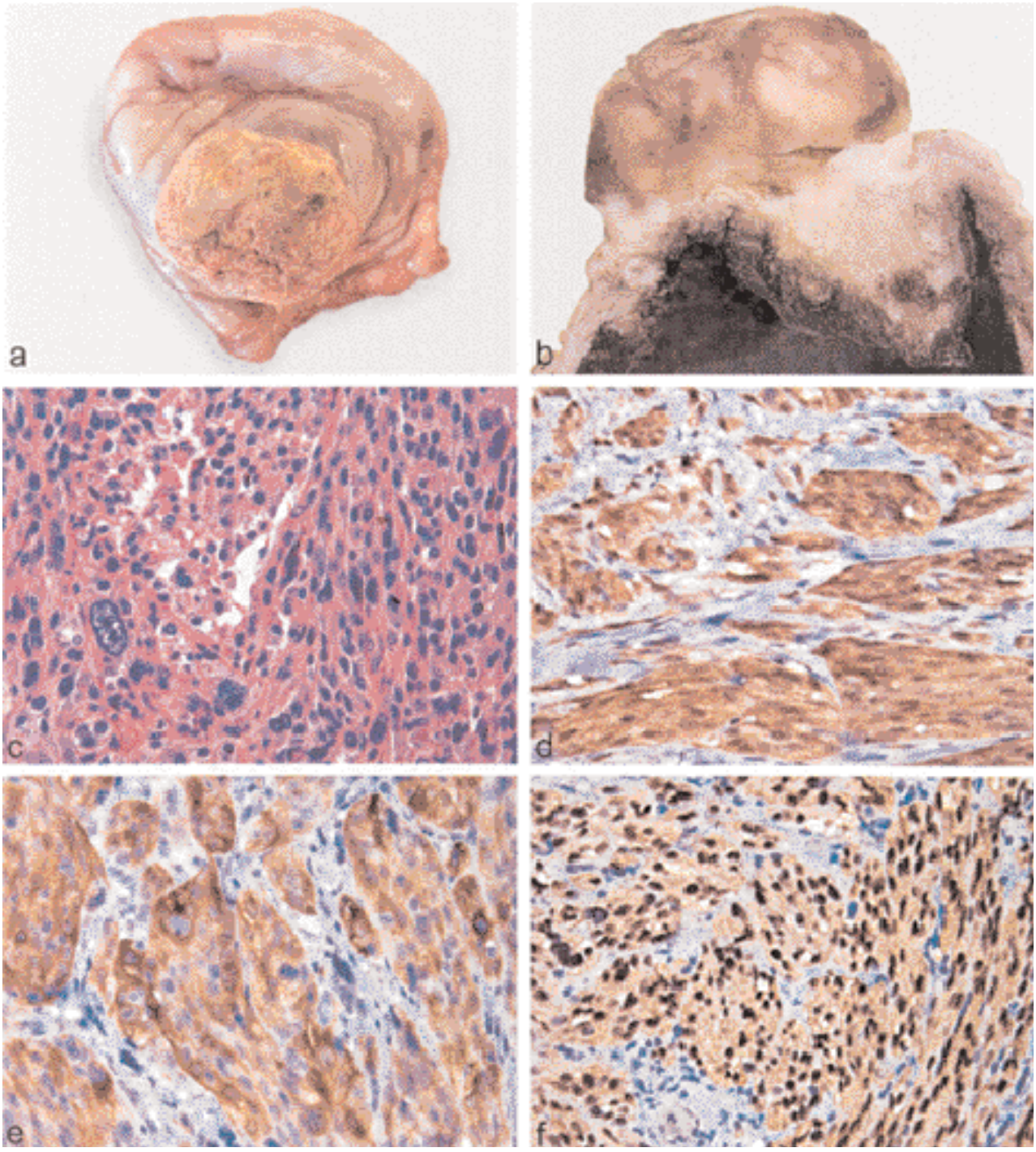

Figure 2. — Gross finding of the formalin-fixed specimen (a, b). Microscopic findings by H&E staining (c), immunohistochemical staining for S100 (d), MART1(e) and MITF (f).

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