Primary Amelanotic Melanoma of the Cervix: A Case Report with Review of Literature

Abstract

Primary malignant melanoma arising from the uterine cervix is extremely rare. It may be misdiagnosed, especially when amelanotic, in which case immunohistochemistry is useful in reaching the diagnosis. We present a case of 67-year-old postmenopausal patient presenting with bleeding per vaginum. Per speculum examination revealed an ulceroproliferative growth involving the cervix. Microscopic examination showed sheets of pleomorphic cells with prominent eosinophilic nucleoli and intranuclear inclusion. On histopathological examination, possibilities of poorly differentiated carcinoma and amelanotic melanoma were kept. On immunohistochemical analysis, tumor cells were strongly positive for HMB-45, S-100, and vimentin. Keeping in view the histopathological and immunohistochemical findings, diagnosis of amelanotic melanoma of cervix was given. Pertinent literature is also reviewed.

Keywords: *Amelanotic, cervix, malignant melanoma*

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Introduction

Malignant melanoma is a common neoplasm of the skin and mucous membranes and makes up 1% of all cancer cases. Approximately 3% to 7% of malignant melanomas in women develop in the genital tract. Female genital tract melanomas are predominantly seen in the vulva and vagina. Primary melanoma of the uterine cervix is extremely rare, accounting only for 3% to 9% of all malignant melanomas of the female genital tract and is five times less common than primary melanoma of the vagina and vulva.[1] The absence of melanin pigment in amelanotic melanomas can lead to their misdiagnoses as carcinomas, sarcomas, or lymphoma.[2] We present one such rare case of amelanotic melanoma arising in the cervix of a 67-year-old patient and described the histopathological and immunohistochemical findings of the case. The thorough clinical and radiological examination did not reveal melanoma elsewhere in the body.

Case Report

A 67-year-old postmenopausal female presented with bleeding per vagina of 3 months. There were no urinary or bowel symptoms. Per speculum examination showed an ulcerated growth involving the whole of the cervix. The Vulva and vagina were normal. A biopsy was taken from cervical growth. Microscopic examination of the biopsy specimen revealed diffuse infiltration of the large cell having marked pleomorphic irregular, eccentrically placed hyperchromatic nuclei with conspicuous 1–2 eosinophilic nucleoli and moderate to abundant granular eosinophilic cytoplasm. Few bizarre tumor giant cells, frequent intranuclear inclusions and atypical mitotic figures were also noted. No intracellular or extracellular melanin pigment was seen [Figure 1]. Based on the above histopathological features, possibilities of poorly differentiated carcinoma and amelanotic melanoma were suggested. Immunohistochemical analysis revealed that the tumor cells were strongly positive for HMB-45 [Figure 2], S-100 protein [Figure 3], and vimentin. They were negative for pancytokeratin, HMWCK, and carcinoembryonic antigen. Keeping in view the histopathological and immunohistochemical findings, the diagnosis of amelanotic melanoma of the cervix was rendered.

Discussion

Amelanotic melanoma is a rare tumor of

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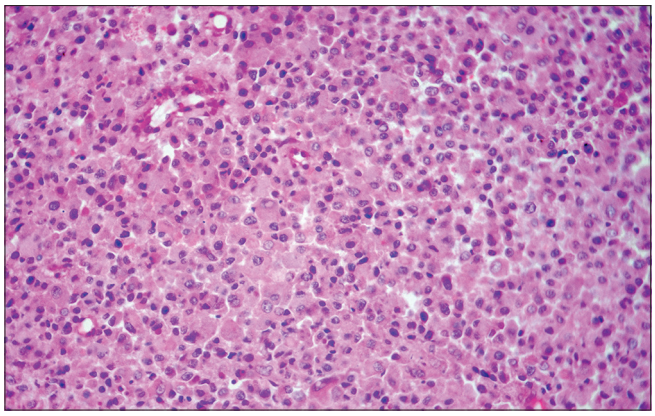

Figure 1: Sheets of tumor cells with prominent eosinophilic macronucleoli and intranuclear inclusion (H and E, ×40)

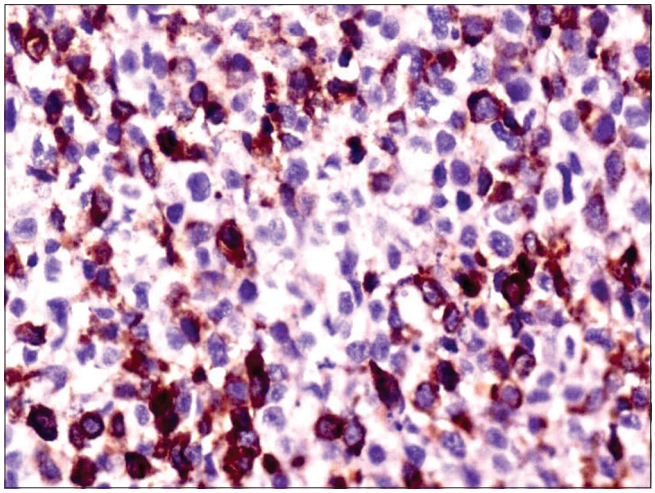

Figure 2: Tumor cells showing positivity for for HMB-45 (IHC, ×40)

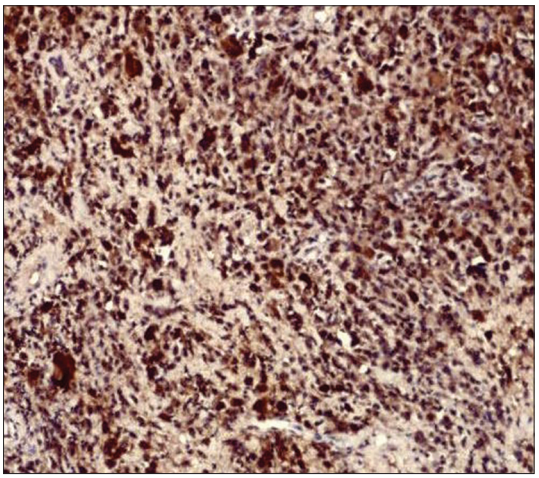

Figure 3: Tumor cells showing positivity for S-100 (IHC, ×40)

the female genital tract. 3%–7% of all primary melanoma arise from the female genital tract. Of these only about 9%–13% involve the cervix, rest of them involve the vulva and vagina.[3] Cervical melanoma is thought to arise from the melanocytic cells of the cervix. An occasional series or case reports have been documenting amelanotic melanoma originating exclusively in the vulva and uterine cervix.[4]

The possibility of cervical melanoma was doubted for a long time because the organ was not believed to contain melanocytes. Hence, it is very important to rule out a melanoma elsewhere in the body before a diagnosis of primary cervical melanoma is made. Moreover, the cervix is not a common site for metastatic malignancies, as it has a limited blood supply and the cervical fibrous stroma provides a poor site for the growth of tumors. According to Morris and Taylor,[5] the four criteria for the diagnosis of primary localization of melanoma are: (1) presence of melanin in the normal cervical epithelium, (2) absence of melanoma elsewhere in the body, (3) demonstration of the junctional change in the cervix, and (4) metastasis according to the pattern of cervical carcinoma. These criteria have been met in a few cases; however, a primary lesion may be missed, especially if the melanoma is amelanotic. Moreover, junctional change may not always be demonstrable, especially if the lesion becomes ulcerated and in small biopsy tissues. In our case, there was the absence of malignant melanoma elsewhere in the body and the immunohistochemistry was supporting the diagnosis of malignant melanoma. Neither melanin nor junctional activity could be identified.

Primary malignant melanoma of the cervix has been described in a wide age range, from 19 to 83 years.[6] Vaginal bleeding or discharge is the most common mode of presentation, similar to that seen in carcinoma cervix.

Accurate diagnosis is difficult, and the problem of misdiagnosis in amelanotic melanoma is serious. In the literature reviewed, seven out of eight cases of amelanotic melanoma were misdiagnosed with anaplastic carcinoma, clear cell carcinoma, sarcoma, choriocarcinoma or lymphoma. In our case, the tumor was nonpigmented, and melanin granules were not demonstrated by either conventional histochemical staining or the Masson-Fontana silver staining. Because of these findings, we initially suspected it to be a poorly differentiated carcinoma or amelanotic melanoma. Subsequently, immunohistochemical staining with vimentin, S-100, and HMB-45 were strongly positive; thus, this case was finally diagnosed with amelanotic melanoma. An extensive search for a melanotic lesion in the skin, eye, and other mucosal sites was negative. Due to the absence of a primary site of melanoma, a final diagnosis of primary cervical amelanotic melanoma was made.

Primary cervical melanoma is usually discovered at an advanced stage and is no longer amenable to curative therapy. Treatment for amelanotic melanoma is the same as that for pigmented melanoma. However, the appropriate therapy is not standardized for this tumor.[7] The therapeutic recommendations for cervical melanoma include radical

surgery followed by external or intracavitary radiotherapy or both. In spite of the low level of radio-sensitivity exhibited by melanoma, irradiation is useful in palliation of an inoperable patient or as primary treatment of patient unsuitable for radical surgery.[8]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest`

There are no conflicts of interest.

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