Primary Malignant Melanoma of the Female Genital Tract: A Series of Interesting Cases

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About the Author

Sangeeta Pankaj's area of interest is Laproscopic surgery, Colposcopy, Gynecological Oncology, teaching and research work. Her special interest is preventive oncology and radical surgeries.

Introduction

Primary malignant melanoma (MM) accounts for 1% of all cancers. Melanomas arising from the female urogenital tract occur primarily in the vulva and vagina (95% and 3%, respectively), and cervical melanoma is least common. Primary vaginal melanoma accounts for less than 7% of all MMs, with less than 300 case reports worldwide [1]. Genital tract melanoma occurs most commonly in post-menopausal women. The mean age at diagnosis is 57 years. Diagnosis is made by histological and immunological examination. Imaging studies are useful in identifying the primary site of malignancy and in determining extension of the mass. The overall prognosis of MM of the female genital tract is very poor because it is usually diagnosed at an advanced stage and it spreads hematogenously at early stages [1].

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The recommended therapy for primary MM of the female genital tract is surgical excision. There are limited reports about the usefulness of adjuvant immunotherapy, RT or chemotherapy.

Case Report

Case 1

A 40-year-old married female with surgical menopause for 15 years, P 7 + 0, presented in OPD with complain of itching and mass over perineum for 1 year, bleeding per vaginum and pain in lower abdomen for three months. On abdominal examination, only right inguinal lymph nodes were found as enlarged, fixed, hard and non-tender. Local examination revealed a growth of 4 × 5 cm on right vulva which extended to lower vagina. Growth was brownish to black colored, friable and bleed on touch. HPE revealed malignant melanoma. Routine investigations and chest X-ray were normal. CT scan of abdomen and pelvis showed multiple right inguinal lymph nodes, the largest one measuring 5.5 × 4.0 cm and multiple enlarged lymph nodes in para aortic and aortocaval region (Fig. 1).

Due to presence of liver metastasis (stage 4), she was referred to radiotherapy department of our hospital for palliative treatment. She received concurrent chemoradiation with 50 Gy in 25 fractions over 5 weeks and 2 doses of gemcitabine 200 mg weekly but she died after 2 months.

Case 2

An 80-year-old female presented with complains of mass in vagina, urinary hesitancy, weight loss and rapidly progressing severe pain in the lower abdomen radiating to her back for 2 months. On examination, bilateral multiple inguinal lymph nodes were palpable. On local examination, there was a 3 cm × 4 cm × 3 cm hyper-pigmented growth involving the lower part of the anterior vaginal wall encasing the urethral meatus and extending to the clitoris and anterior two-thirds of labia minora with tenderness. FNAC of inguinal nodes showed large number of melanocytes with large and prominent nucleoli, numerous melanophages and intracellular and extracellular melanin pigment (Fig. 1b). Biopsy from vagina showed melanocytes invading the submucosal connective tissue of the vagina and the presence of both intracellular and extracellular melanin pigment.

CT scan revealed secondaries in the liver and multiple enlarged inguinal lymph nodes. Patient's condition deteriorated rapidly despite chemotherapy and radiotherapy, and she refused to take further treatment and was lost to follow-up.

Case 3

A 51-year-old postmenopausal woman para-3 presented with foul smelling watery discharge and occasional slight bleeding per vaginum for 3–4 months.

Speculum examination revealed enlarged cervix around 4 cm, bluish black in color with involvement of the anterior vaginal fornix. As clinical picture was difficult to capture, we took colposcopic picture (Fig. 2). On bimanual examination, uterus was normal in size and no pathology was found in the fornices. On per rectal examination, bilateral parametrium and rectal mucosa were involved. On computed tomography, there was soft tissue enhancing and exophytic mass (38 mm × 34 mm) involving posterior lip of cervix with parametrial involvement. Histopathology report showed brown pigments as melanoma. Immunohistochemistry showed strong positivity for HMB45 and S100 but epithelial and neuroendocrine marker CK (AE1/AE3) were negative, establishing the diagnosis of a malignant melanoma (Fig. 2).

She was sent to radiotherapy department for further management. She was on DACARBAZINE 300 mg D1–D5 for four cycles and radiation treatment was planned for her but she did not follow up.

Discussion

Primary malignant melanoma (MM) of the uterine cervix is an extremely rare neoplasm, with about 78 cases described in the literature. Vaginal bleeding (63.6%), vaginal mass (15.9%) and vaginal discharge (15.9%) are common symptoms of female genital tract MM [1]. The gross appearance of female genital tract MM may be pinkish, brown and black colored, and it is commonly accompanied by ulceration compared to cutaneous MM that develops from a nevus. All the three primary cases showed brownish black colored, friable exophytic growth. The gross findings of vaginal MM include various shapes of lesions, such as solitary, multifocal, superficial spreading and a nodular shape.

Diagnosis of MM is made by histological and immunological examination using special immunostains such as those for S100 and HMB-45 to identify the primary site of vulval, cervical or vaginal MM. A thorough physical examination and imaging study are essential. Although there are few reports of metastasis from malignancies of kidney and breast, metastasis to the lower female genital tract is rare and mainly from adjacent organs: bladder and colorectum [2]. CT or MRI may be helpful to determine the extension, as well as the degree of cancer involvement.

Fig. 1 **a** Clinical picture of vulvar melanoma and CT scan showing enlarged lymph nodes. **b** Clinical picture of vaginal melanoma and FNAC from inguinal nodes showing melanocytes

The recommended therapy for primary MM of the female genital tract is surgical excision. For vulvar melanoma, wide local excision with a 1 cm surgical margin is recommended for lesions with a depth of less than 1 mm and en bloc resection for deeper lesions, with a safety margin of 2–3 cm and regional lymphadenectomy (inguinal-femoral). Malignant melanoma of the vagina is a disease of postmenopausal women, with 75% of women being more than 50 years of age. Vaginal melanoma is an aggressive tumor and has poor prognosis with 5-year survival rate of 5–25% only. The optimal treatment modality for vaginal melanoma is still a subject of debate [3].

The therapy of choice for primary cervical MM is radical surgery, followed by focal radiotherapy, i.e., radical hysterectomy with pelvic lymph node dissection and partial vaginectomy, followed by RT such as external beam RT or intracavitary RT. Malignant melanoma is resistant to radiotherapy and chemotherapy so adjuvant treatment with immunotherapy, chemotherapy and radiotherapy may be recommended in specific cases and for local recurrences

and distal metastases. The overall prognosis is very poor. The main prognostic factors include tumor site, depth of invasion, presence of ulceration and occurrence of lymph node metastases. It is very crucial to diagnose MM of the cervix and treat at an early stage. Routine pelvic examination and cervical inspection should be a part of clinical assessment, especially for patients presenting with vaginal bleeding or discharge [4].

Conclusion

As all the patients of genital melanoma present late and the prognosis is poor, MM should be considered as a differential diagnosis of other neoplasms in all patients visiting clinic with a mass or vaginal bleeding. The pathologic diagnosis is usually confirmed by histopathology and immunohistochemistry. The treatment of choice for female genital tract MM is surgical excision, and the prognosis is generally poor. Early diagnosis and colposcopic studies

Fig. 2 Colposcopic picture of MM of cervix and IHC of malignant melanoma of cx HMB 45, Protein S 100 (positive), CK (negative)

will help in timely management and better understanding of this rare disease and consequently better survival and prognosis.

Compliance with Ethical Standards

Conflict of interest We declare that this manuscript is original, it has not been published anywhere before and is not currently being considered for publication elsewhere. We also confirm that the authors do not have any conflict of interest associated with publication of this work, no significant financial support/funding for this work has been received to influence the outcome. The manuscript is read and approved, and consent is given by all the authors. We give our permission to reproduce any material of the article.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study. This article does not contain any studies with animals performed by any of the authors.

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