Primary malignant melanoma of the vagina

N. Takai[1], *M.D.*; N. Kai[2], *M.D.*; Y. Hirata[3], *M.D.*; K. Kashima[4], *M.D.*; H. Narahara[1], *M.D.*

[1]Department of Obstetrics and Gynecology, [2]Department of Dermatology, [3]Department of Urology, and [4]Department of Pathology, Oita University Faculty of Medicine, Oita (Japan)

Summary

Malignant melanoma originating in the vagina is considered extremely rare and has a very poor prognosis. We report a case of a 70-year-old woman with primary malignant melanoma of the vagina, and discuss the importance of prognostic factors and the efficacy of adjuvant chemotherapy.

Key words: Malignant melanoma; Vagina; Prognostic factors; Adjuvant chemotherapy.

Introduction

Primary malignant melanoma of the vagina is a rare neoplasm, which accounts for less than 3% of all vaginal malignancies and between 0.3 and 0.8% of malignant melanomas [1]. The majority of patients are older than 50 years; the commonest presenting symptoms are vaginal bleeding, discharge and palpable mass [1]. Despite the use of surgery and adjuvant therapy, vaginal melanoma still has an ominous prognosis.

Case Report

A 70-year-old, gravida 3, para 3, postmenopausal Japanese woman was admitted to our hospital because of abnormal vaginal bleeding for two months. Neither surgical nor medical history data were remarkable. Inspection showed a brown-pigmented nodular and irregular lesion, measuring 3 cm x 2 cm x 2 cm, on the right side of upper third of the vagina; the uterus and ovaries were normal. The satellite lesion, measuring 3 cm x 1.5 cm, was seen on the right side of the urethra. There was no palpable inguinal node. Computed tomography (CT) scanning of the brain, chest, abdomen and pelvis, and abdominal magnetic resonance imaging (MRI) did not disclose metastases. Colonoscopy and uretrocystoscopy were normal. The serum level of 5S-cystenyldopa, a tumor marker for malignant melanoma, was 5.0 nmol/l (normal 1.5-8.0 nmol/l). Modified radical hysterectomy, total vaginectomy, pelvic lymph node dissection, bilateral salpingo-oophorectomy, urethrectomy and cystostomy were performed (Figure 1). The postoperative course was unremarkable. Histopathological study of the specimen revealed a nodular malignant melanoma (the histologic diagnosis was confirmed by positive immunostaining for S100, vimentin and HMB 45) and free surgical margins, which were at least 10 mm laterally and 2 mm in depth (Figure 2). There was no pelvic node metastasis. On microstaging, Breslow depth was 11 mm and Chung level was IV; the case was allocated American Joint Committee on Cancer classification Stage IIB and FIGO Stage I. A regimen of postoperative adjuvant chemotherapy was immediately started. The regimen consisted of dacarbazine, nimustine, cisplatin, and tamoxifen. The patient underwent one course of this treatment but developed a local relapse and multiple metastases (liver, lung, adrenal gland, rib, mediastinal lymph nodes, paraaortic lymph nodes and presacral lymph nodes. She died nine months postoperatively. Her family did not permit an autopsy.

Discussion

Vaginal malignant melanoma is a very rare and highly aggressive tumor which overall 5-year survival ranges from 5 to 21% [2]. Prognostic factors have been difficult to identify; previous reviews [3, 4] have found tumor size as one of the most important. However, tumor thickness did not affect survival. Chung *et al.* [5] pointed out that this could be explained because vaginal melanoma usually consists of level III-IV lesions. In the case exposed, tumor size was 3 cm and Breslow depth 11 mm. The patient's survival was nine months, which is consistent with those reported by Buchanan *et al.* [1]. There does not seem to be a relationship between overall outcome and age, parity, FIGO stage or location. Histological features such as cell type, mitotic count, ulceration, vessel involvement or amelanosis neither seem to correlate with patient survival [4].

Prognosis is poor regardless of the treatment delivered. Surgical management has been considered the most important potential curative treatment. There is no consensus, though, as to which would be the best approach, especially when there is no evidence of metastases. Some authors have recommended radical surgery [5]. The poor prognosis expected in our patient induced us to apply modified radical surgery in order to achieve local control and avoid metastatic disease; as the tumor was located in the upper vagina, pelvic lymphadenectomy was performed, though some authors recommend adding inguinal node dissection as well [5]. Assessment of histopathological nodal status by radiopharmaceutical-directed mapping could be used to decide which patients have to undergo lymph node dissection [6].

McClay *et al.* [7] reported that the joint administration of cisplatin, dacarbazine, carmustine, and tamoxifen was effective for 30% to more than 50% of metastatic melanomas. The regimen of dacarbazine, nimustine, cisplatin, and tamoxifen was not effective in the present case. High-dose interferon-alpha-2b has recently been

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Fig. 1

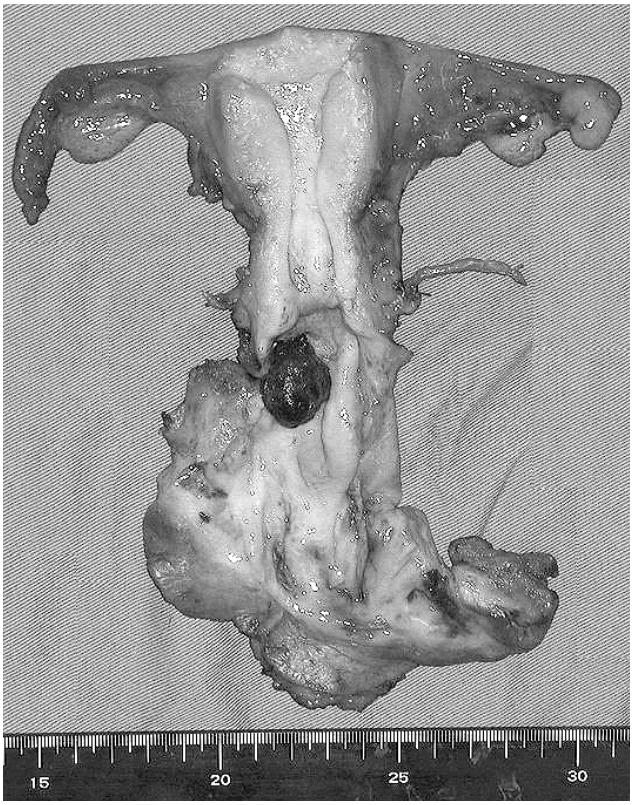

Figure 1. — The uterus, vagina, introitus and urethra, opened anteriorly; melanoma involving the upper third of the vagina can be seen.

Fig. 2

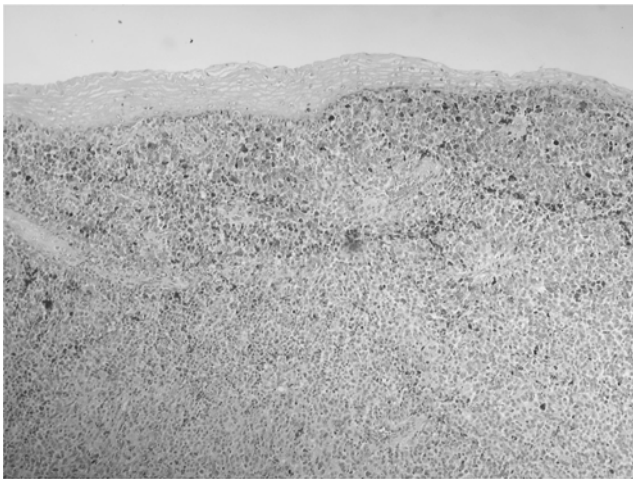

Figure 2. — Proliferation of atypical melanocytes along the dermoepidermal junction with extension into the squamous epithelium (hematoxylin-eosin staining; original magnification x 200).

reported to be an effective neoadjuvant treatment [8]. Clinical trials have focused on molecular targeting therapy with various multikinase inhibitors, including sorafenb [9]. Molecular targeting therapy includes drugs that target platelet-derived growth factor or c-kit, which are activated to high levels in melanoma cells. The data from recent published studies suggest that improvement of molecular targeting drugs as neoadjuvant treatment for advanced malignant melanoma might result in improved prognosis for this disease.

Conclusion

Vaginal melanoma is rare and associated with a dismal prognosis. Tumor size has been identified to be the strongest predictor of survival. Since it has been demonstrated that radical surgery has no significant advantage over conservative surgery, it is difficult to support the use of radical surgery as the primary surgical treatment for vaginal melanoma. The data from recent published studies suggest that improvement of molecular targeting drugs as neoadjuvant treatment for advanced malignant melanoma might result in improved prognosis for this disease.

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Address reprint requests to:
N. TAKAI, M.D.
Department of Obstetrics and Gynecology,
Oita University Faculty of Medicine
1-1 Idaigaoka,
Hasama-machi, Yufu-shi,
Oita 879-5593 (Japan)