

## Primary Malignant Melanoma of the Vagina: Two Cases Reports

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**Abstract:Aim:** To report the experience in diagnosis, management and outcome of 2 cases of malignant melanoma of vagina.

**Case Reports:** the report concerns two postmenopausal patients with vaginal melanoma treated by radical surgery with bilateral inguinal pelvic lymphadenectomy. The first patient presented with a 4cm pigmented brownish mass located in the posterior wall of the lower third of the vagina with a satellite nodule of 1cm in the upper third of the vagina. The second patient had a 10cm pigmented and ulcerated mass in the upper two third of posterior vaginal wall and an ulcer of 1.5 cm in the middle third of anterior vaginal wall. The first patient did not receive any adjuvant therapy after surgery and expired after one and half years because of local recurrence and distant metastasis. The second patient received radiotherapy after surgery and is alive for more than 2 years without any evidence of disease.

An adjuvant external radiotherapy at dose of 50Gy was delivered to the second patient and she was well 26 months later, with no sign of local or distant recurrence.

**Conclusion:** Though radical surgery is the treatment of choice for malignant melanoma of vagina adjuvant radiotherapy may improve survival by preventing recurrence.

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### I. Introduction

Vaginal melanoma is rare, accounting for less than 0.33% of melanomas and less than 3% of vaginal malignant tumors. In women, 1.6% of malignant melanomas are localized to the genital tract: the vulva, vagina and uterine cervix are involved in 70%, 21% and 19% of the cases, respectively [1-3].

It is an aggressive disease, with most patients diagnosed with advanced stages: 20% of patients present distant metastases at diagnosis and lymph node involvement is found in 50% of the cases [4, 5].

#### Case 1

A 70 year-old postmenopausal woman, was complaining of vaginal mass with pelvic pain since six months. Her medical history included subtotal hysterectomy for uterine leiomyoma. On physical examination, we found a 4 cm pigmented brownish mass located in the posterior wall of the lower third of the vagina with a second satellite nodule of 1cm in the upper third of the vagina. No abnormalities were found on the examination of the uterine cervix and parametrium. Bilateral inguinal lymph nodes were not palpable. The chest X-ray and abdomino-pelvic tomography showed no sign of distant metastasis. An excision biopsy of the lesion taken under local anesthesia was reported as malignant nodular melanoma. Following the discussion of the case with multidisciplinary approach, it was decided to perform a total colpectomy with bilateral inguinal and pelvic lymphadenectomy. The patient was operated by abdomino-perineal approach. In the exploration of the abdomen, the abdominal organs were found normal and there was no grossly palpable lymph node in the pelvic and para aortic area.

The post-operative course was uneventful and the patient was discharged at 9<sup>th</sup> days following surgery. The final pathology report concluded to the diagnosis of lentiginous-type malignant melanoma with Breslow depth invasion of 0.6cm. On gross examination, we found a 1.2 x0.8 cm blackish pigmented nodule surrounded by pigmented plane area. Microscopically, the tumoral proliferation included rounded or ovoid cell with abundant cytoplasm containing melanic pigments. The nucleus was atypical with prominent nucleolus. High percentage of typical and atypical mitotic figures (9 per 10 hpf) was seen. The surgical margins of the specimen were negative for tumor cells. Only one lymph node was found to be involved in the right inguinal area of 17 removed lymph nodes. The sixteen removed pelvic lymph nodes were also tumor-free. The tumor staged T1N1M0 according to the American joint committee.

The patient presented a local recurrence, nine months after surgery, with 10 mm nodule located to the urethral opening, a multiple sub mucosal nodules involving the right labium majus and minus associated to a right inguinal lymph node recurrence. After discussion with the patient, a total vulvectomy with inguinal lymph node clearance was performed including the nodule located to the urethral opening. Six months later, the patient was diagnosed with multiple pulmonary and bone metastases. She received palliative radiotherapy to the vertebral column and she died before the beginning of the chemotherapy one month later.

## Case 2

A 75 year-old woman, presented at our institute with scanty spontaneous postmenopausal metrorrhagia lasting since 10 months. Her medical history included a hypertension, a facial paralysis with Claude Bernard Horner syndrome complicating the resection of cervical benign schwannoma. On the gynecological examination, a 10 cm pigmented and ulcerated mass was found in the upper two third of the posterior wall of the vagina associated to 1.5cm ulceration in the anterior wall of the middle third. The uterine cervix, the uterus, the parametrium showed no abnormalities. No palpable lymph node was found on physical examination.

The biopsy concluded to the diagnosis of Superficial Spread Melanoma (SSM). The immunohistochemistry using monoclonal antibodies confirmed the diagnosis showing a positivity of the tumor cells for S100 protein and HMB-45 antibody and negativity for cytokeratin and epithelial membrane antigen. The CT scan of the thorax, abdomen and pelvis, the rectoscopy, cystoscopy showed no evidence of local or distant metastasis with any lymphadenomegaly.

After multidisciplinary discussion, the patient underwent a total hysterectomy with bilateral salpingo oophorectomy and a total colectomy by abdomino-perineal approach. A bilateral iliac lymph node clearance was performed. The post-operative course was uneventful and the patient was discharged on the 8<sup>th</sup> day. On the final pathology report, we found a 12/10cm polypoid white greyish mass fixed to the posterior wall of the vagina with multiple foci of necrosis and hemorrhage. In addition, 1.5cm ulceration in the anterior wall was noted.

On microscope, the tumoral proliferation was represented by multiple areas of spindle-shaped cells with eosinophilic cytoplasm. The nuclei were atypical sometimes giant with multiple abnormal mitosis (mitotic index corresponding to a grade III of Mac Govern). No lymph node involvement was found on histology. The tumor staged T1N0M0 according to the American joint committee.

Because of the tumor size, an adjuvant external radiotherapy at the dose of 50 Gy was delivered to the pelvis and inguinal areas. Twenty six months later, the patient was well with no sign of local or distant recurrence.

## II. Discussion

The primary vaginal melanoma is rare. Less than 350 cases are described in the literature [4, 6]. PARONA describe the first case in 1897. NYGOGOSSIAN et al demonstrate the presence of melanocytes in the basal part of the vaginal epithelium in the 3% of healthy women and this is the site that vaginal melanoma is thought to arise [7, 8].

It was reported that vaginal melanoma occurs in menopausal women in the 5<sup>th</sup> and 6<sup>th</sup> decades, while our patients were in their seventies [4].

The most common presenting symptoms are provoked or spontaneous vaginal bleeding, fetid vaginal discharge or a palpable mass [9]. In our cases, the symptoms were metrorrhagia and vaginal mass.

On physical examination, melanoma is reported as crumbly ulcerated nodular mass bleeding easily in contact, with a mean tumor size varying from 2 to 4 cm, our mean tumor size were 7cm. The primary malignant melanoma of the vagina is reported to be located in 42.7% in lower third and in 38% in anterior wall of the vagina [9], in our cases the tumor were located in the lower third in one case and in the upper two thirds in the other but in the posterior wall of the vagina.

The differential diagnoses in surgical pathology are represented by the adenocarcinoma, small cell carcinoma and sarcomas, where the immunohistochemistry takes a place in the histological diagnosis of malignant melanoma using monoclonal antibodies S100 that represents the most sensitive biological marker of well differentiated melanocytes. The HMB-45 is more specific than the S100 antibody but less sensitive [2]. In our cases, the histological diagnosis was done using HMB45 and S100 antibodies.

There is no standard approach in the treatment of primary malignant melanoma of the vagina, because of the very low incidence of the unusual localization. The surgery remains the corner stone of the treatment but the extent of the resection ranges from conservative surgery such as wide excision of the lesion or total colectomy to radical pelvic exenteration with en bloc removal of involved pelvic organs associated to inguinal and iliac lymphadenectomy [4, 7].

Some authors find that vaginal melanoma is an aggressive tumor with a high rate of local recurrence ranging from 22% to 80% and recommend radical surgery with lymphadenectomy [4]. Geisler et al. advised primary pelvic exenteration for vaginal melanoma over 3 mm of invasion and showed that 50% 5-year survival rate might be obtained if the pelvic nodes were free of metastases [10]. Chung and Ariel, with separate series of 19 and 48 patients, respectively, defend the opinion that the appropriate management of this disease requires radical extirpation of the vagina supplemented by dissection of the regional lymphatics [11, 12]. Frumovitz and al performs surgery wide local excision or radical surgery in 76% of cases and exenteration in 14% cases. [4]

On the other hand, some authors defend the conservative management of malignant vaginal melanoma giving as argument the presence of distant micro metastases at the diagnosis not detected at the initial work up, making an extended mutilating surgery ineffective [7, 13].

Our patients were treated with radical surgery associated to bilateral lymphadenectomy.

A few articles are dealing with sentinel lymph node mapping in malignant vaginal melanoma, only six cases are reported in the literature, to our knowledge [14]. An inguinal sentinel lymph node is detected in four patients with melanoma of the lower third of the vagina with no involvement on histology study [7, 14]. The authors concluded that the techniques of sentinel node must be performed in selected cases with no palpable node. The radiotherapy, is used when surgery is contraindicated, or in neoadjuvant setting to reduce the tumor size allowing a conservative resection. In adjuvant setting, the radiotherapy is related to a better local control and survival even after wide excision [2].

Frumovitz and al reported a reduced local recurrence risk and increased survival from 16.1 months to 29.4 months, although the increase was not statistically significant, when radiotherapy is used after complete resection, while Samolis states that radiotherapy, chemotherapy or radical extirpation cannot increase the survival time even in metastatic disease [4, 15]. Ohno suggests that carbon ion radiotherapy can be the only conservative management for malignant melanoma of the vagina showing no evidence of local recurrence [16]. We used adjuvant radiotherapy for the second patient because of the important tumor size with no sign of local or distant recurrence.

Chemotherapy and immunotherapy may lead to excellent results. In fact, Wang and al found that surgery followed by chemotherapy and immunotherapy is the best therapeutic approach [17]. In a randomized study, Kirkwood and al demonstrate that IFN alpha-2b prolongs the time of tumor recurrence and improves overall survival. The prognosis of vaginal melanoma is poor; survival at 5 years is 8.4%. Reid and al found that tumor size is the only significant prognostic factor: an analysis of 115 patients with lesions less than 3 cm shows a better survival in comparison with patients having lesions greater than 3cm (P = 0.024). In fact, tumor size influences the range of remission and not overall survival [9].

### **III. Conclusion**

With the experience of these 2 cases, it can be concluded that though Radical surgery is the treatment of choice for malignant melanoma of vagina and adjuvant Radiotherapy may improve survival by preventing recurrence. The literature review also supports Radiotherapy can prolong survival according few authors. Chemotherapy and immunotherapy may be combined when feasible with expectation of prolonged survival.

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