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Case Report Open Access

Adjuvant Radiotherapy for an Elderly Patient Affected by Primary Malignant Melanoma of the Vagina: A Case Report and Review of the Literature

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Abstract

The melanoma of the vagina accounts for 5% of all vaginal cancers and for 0.3-0.8% of all malignant melanomas. Due to its rarity, there are not evidence or recommendation to treat this tumor. We reported a case of vaginal malignant melanoma (VMM) in an older patient treated with palliative surgery and adjuvant radiotherapy.

Keywords: Vaginal melanoma; Radiotherapy; Surgery; Chemotherapy and elderly

Introduction

Primary vaginal cancer represents less than 3% of the female reproductive cancer tract in USA [1] and the vaginal malignant melanoma (VMM) accounts for 5% of all vaginal cancers [2]. Despite melanomas developed from areas exposed to sun, some of these arose from different anatomical areas such as the oral mucosa or genital tract [3]. VMM accounts for 0.3-0.8% of all melanomas [4] and due to its rare incidence, there are few published data that consist of case reports and small series [5,6]. Patients affected by this tumor had a higher risk of recurrence and metastatic spread with a 5-year survival rate of 8.5-18% in spite of the primary therapy [3,4,7-9].

We described a case of vaginal melanoma treated with palliative surgery followed by adjuvant radiotherapy.

Case Report

On January 2011, a 85 year-old woman, was referred to the gynaecology department for comparing of vaginal bleeding and vulvar pain. The patient was also affected by arterial hypertension, myocardial infarction, stroke and BPCO. Clinical vaginal examination revealed an ulcerated mass of the vaginal walls (about 9-10 cm) and the biopsy showed voluminous cell with cytoplasmic melanin pigmentation. The immunohistochemical findings supported the diagnosis of melanoma, showing positive Melhan-A, CD 117, S-100 and HMB-45. Total Body Computed Tomography (TB-CT) confirmed the presence of a 10cm vaginal mass, without infiltration of the rectum walls. No evidence of metastases and nodes involved was shown. A PET-CT only revealed a necrotic vaginal mass (SUV 9.8) without other suspected areas. Based upon the system staging of melanoma of the American Joint Committee on Cancer produced in 2009, the patient was staged IIc (cT4b N0 M0) [10]. Our multidisciplinary group decided the therapeutic approach and on February, the patient underwent palliative surgical resection of the neoplasm due to age and comorbidity. In our Institution, the Charlson Comorbidity index (CCI) [11-13] is used to evaluate the comorbidity assessment for elderly patients. This index predicts the 10-year mortality for a patient who may have a range of co-morbidity (a total of 19 conditions with a score of 1, 2, 3 or 6 depending on its risk of death) With each increased level of the CCI, there were stepwise increases in the cumulative mortality attributable to co-morbid disease ($p<0.0001$). Used in association with age, the score receives the addiction of the specific age weighting: from 50 years, one point was assigned for each 10-year period. Our patient had a CCI score of 4 and when it was adjusted with age, it was 7: this indicated a high risk of death for comorbidity.

The post-operative CT showed a 7×5 cm residual vaginal mass (Figure 1a) and, the patient underwent radiotherapy (RT) alone as adjuvant treatment.

From March 2011, 3-Dimension Conformal RT with nominal energy of 15 MV and 4 fields (gantry angles: 0°, 90°, 180° and 270°) was performed. The Clinical Target Volume 1 (CTV) consisted of the whole pelvis; CTV2 consisted of the whole vagina. The Planning Target Volumes were obtained from CTVs plus 0.7 cm margins. Total dose was 45 Gy for PTV1 and 65 Gy for PTV2 (1.8 Gy/day).

During radiotherapy, the patient received one clinical examination and blood tests every week; no G3-4 acute toxicity was registered according the RTOG toxicity criteria.

On January 2012, after 11 months from resection, TB-CT showed a reduction of residual vaginal mass (5×3 cm; (Figure 1b)) but unfortunately, the appearance of multiple lung metastases. PET confirmed the presence of lung metastases (left lung hilum, SUV 7.2;

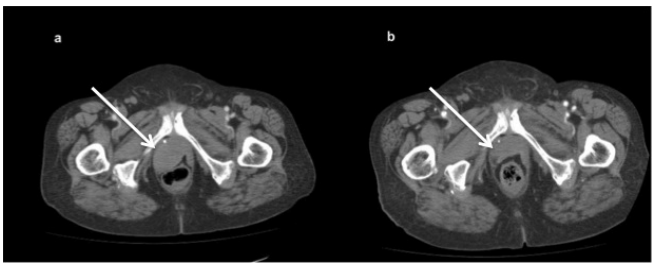

Figure 1: Computed Tomography scan of vaginal malignant melanoma (a) Post-operative (7×5 cm) and (b) after Radiotherapy (5×3 cm).

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and multiple bilateral lung lesions SUV 2.4) without metabolic uptake of the vaginal mass. The patient received best-supported care and died 21 months after diagnosis.

Discussion

Vaginal melanomas developed from melanocytes cell of the vagina; in fact 3% of women have typical melanocytes in the vaginal mucosa [5,14]. Immunohistochemical findings with positive vimentin, S-100, Melan A and HMB-45 are important for its diagnosis, while negative epithelial markers will rule out epithelial carcinoma [5].

Due to the rarity of VMM, the optimal treatment is unknown and the data are sparse consisting of few small series or case reports [6,15,16]. Perhaps, pre-operative evaluation with CT and PET-CT is needful for N- and M-staging to define the correct treatment approach for patients with VMM [17,18]. In a case of vaginal melanoma published by Grenader et al. [5], PET-CT was performed only few weeks after pelvic exenteration and revealed multiple metastases (liver, pancreas, soft tissue and vertebrae). The authors underscored the importance of PET-CT as part of preoperative evaluation in all patients with VMM [5] In our case, pre-operative examination (CT and PET-CT) excluded the presence of nodal involvement or metastases, but without systemic therapy, they appeared 11 months after diagnosis.

Surgical resection is the first approach. Some surgeon reported that the pelvic exenteration is the best approach for this tumor [19], but a recent analysis [6] showed no improvement in survival between pelvic exenteration and radical excision plus adjuvant radiotherapy.

Despite this is a radio-resistant tumor, adjuvant radiotherapy seems to improve local control in patients with VMM [4,6,20,21]. Frumovitz et al. [6] reported the outcome of 37 patients, affected by VMM Stage I, treated from 1980 to 2009. All patients who underwent surgery alone experienced recurrence, only 3/16 woman treated with adjuvant RT recurred, moreover in the RT group there was an improvement of 13 months in survival (29.4 months vs. 16.1; p=0.46) [4].

Irvin et al. [4] reported the results of 6 cases and showed that recurrences developed only in patients treated with single modality while there was a better local control in the adjuvant radiotherapy group.

RT was also used for local recurrence in patients who received only surgery as first treatment. In a case report, McGuire et al. [22] treated with RT a vaginal recurrence after definitive vulvectomy, distal vaginectomy and distal urethrectomy. A total dose of 45 Gy plus Brachytherapy (100 Gy) was administered, resulting in the resolution of the tumor mass. On the contrary a recent multicentric retrospective analysis about 46 patients with VMM, showed a non significant trend for a better locoregional control for conservative surgery plus radiotherapy compared with surgery alone (p=0.16), but concluded that conservative surgery followed by adjuvant radiotherapy could be proposed to patients with early FIGO stage [23].

Our elderly patient presented a gross tumor mass without node or distant metastases. Palliative local excision plus radiotherapy were performed without acute morbidity or toxicity. Adjuvant radiotherapy resolved the vaginal bleeding, producing a good local control with the reduction of the residual disease.

Adjuvant chemotherapy should be used to reduce the risk of distant metastases that represent 78% of cases of recurrence [24]. Multiple agents were evaluated in the treatment of melanomas (Temozolomide, INF-alfa, decarbazina) but unfortunately without success [6] even if a recent analysis showed that preoperative chemotherapy with paclitaxel and bevacizumab may improve survival for vaginal and vulvar melanomas [9,25]. Currently, areas of active therapeutic interest in melanoma include immunotherapy, and molecularly targeted therapy and the evaluation of genetical profiling of melanoma (for example c-KIT). The understanding of this aspect will provide a more individualized therapy in the future [23,26,27].

Moreover the therapeutic approach for elderly with cancer is an important challenge in oncology and perhaps at the moment the nihilism in the treatment of patients over 70 is obsolete. The treatment decision-making for elderly patients is quite difficult and the use of tools, such as CCI, to help the clinicians will be much more useful but further studies are necessary.

Our patient was excluded to receive chemotherapy due to age and comorbidity (CCI 4) and, unfortunately, after 11 months from surgery, she experienced multiple lung metastases.

In conclusion, pre-operative evaluation (CT and PET-CT) is the first step to choose the treatment approach in woman with VMM. Local or palliative excision plus adjuvant radiotherapy could be affective in patients over 70 affected by vaginal melanoma to reduce the risk of local recurrence. Chemotherapy is needful to reduce the high risk of distant metastases and the use of the new targeted-therapy will have a clinical sense.

Finally, despite the lack of guidelines for VMM, integrated and multidisciplinary approach seems to be the better way.

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