

# Primary Vaginal Melanoma – Cytohistological Correlates and Literature Reviews

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## Abstract

Malignant melanoma is a well known high grade tumor but with slowly progressing malignancy. Primary malignant melanoma is a rare, highly malignant and has a poor prognosis disease.

A 54-years-old, pre- menopause female presented with a mass coming out of vagina with foul smelling vaginal discharge and prolonged vaginal bleeding for 3 months. On per speculum examination, there was a friable greyish fungating mass measures 5×3 cm in size with contact bleeds which predominantly involved the vagina.

Pap smear was done and reported as carcinoma (NOS). Later, biopsies were done at various sites around cervix, vaginal mass, left vaginal tumour margin and endometrial. Cervical and endometrial biopsies show no evidence of malignancy. However, the biopsy from vaginal mass reported as malignant melanoma of vagina. The left vaginal wall margin also shows tumour involvement.

The patient was received an external pelvic radiotherapy. CT scan staging shows the malignant tumour has metastasized to the lung and liver. Currently patient is under chemotherapy follow up.

Keywords: Pap smear; Vagina; Cytohistological correlate; Melanoma

## Introduction

Primary malignant neoplasm of the vagina is extremely uncommon, representing only 1-2% of all malignant tumours of the female genital tract [1]. Less than 1% malignant melanoma occurs in woman and less than 10% occur in female genital tract [2]. Malignant melanoma of the vagina mainly occurs in post-menopausal women with the age interval between 38-90 years [3]. Most of the patients will come with a complaint of vaginal bleeding and the disease is usually locally advanced at the time of admission. There is no defined, yet appropriate and effective protocol for this disease. Recommended treatment varies from wide local excision, radical surgery, radiotherapy, chemotherapy and immunotherapy [4]. This aggressive tumour has a poor prognosis, with 5 year survival rates 5 - 25% [1]. Melanoma is a great mimicker with wide spectrum of cytological features. Cytologically, especially in conventional pap smear ,the cells may mimic various pathological entities which need additional immunohistochemical stains for definite diagnosis.

Diagnosing malignant melanoma in Pap smear is difficult. However in this case, Pap smear test is playing a big role as a detector for cancer.

#### **Case Summary**

A 54-years-old pre-menopause Malay lady, presented to the Obstetrics and Gynecology clinic with complaint of prolonged per vaginal bleeding associated with foul smelling discharge for 3 months duration. On per speculum examination, noted a friable grey fungating mass with contact bleeds. The mass was extending up to the lower one third of vagina. Besides that, the patient also has a history of wearing intra uterine contraceptive device (IUCD) for 18 years but never removed it.

Pap smear screening shows clusters of malignant cells which some having melanin pigment (Figures 1 and 2). On microscopic examination of the biopsy taken from the vaginal mass, there was an ulcerated exophytic malignant tumour infiltrating into the sub-mucosa layer (Figures 3 and 4). The malignant cells are highly pleomorphic with some areas showing round-to-oval vesicular nuclei with prominent macronucleoli having moderate amount of cytoplasm (Figure 5). In other areas, the cells are spindle in nature. Melanin pigment is abundant and is demonstrated by Melan A stain. Mitoses are abundant, about (20/10 hpf) including the abnormal forms. The tumour cells show positivity for Vimentin, S-100 and HMB-45.

CT scan was done prior to histopathology result shows features of malignant vaginal mass with local infiltration to bladder, cervix, anal canal and both levator ani muscles. Then, the patient was subjected for radiotherapy. Repeat CT scan after completed radiotherapy shows multiple lung nodules and liver metastasis. Chemotherapy was started.



Figure 1: Shows a cluster of malignant cells (Pap x400).

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Figure 2: Shows melanin pigment (arrow) (Pap x400).



Figure 3: Biopsy from vaginal mass show an infiltrating malignant tumour mucosa of the vagina (H & E x 200).



rigure 4: Biopsy from Vaginal mass show an inflitrating malignant tumour mucosa of the vagina (H&E x400).

# Discussion

Diagnosing malignant melanoma in Pap smear is difficult. Hence the disease itself is uncommon happen to female genital tract with less than 300 cases have been reported throughout the world [4]. However, in this case Pap smear test is playing a big role as a screening tool in diagnosing a pre-cancerous lesion and cancerous lesion. Melanoma is a great mimicker and can present with spectrum



Figure 5: Biopsy from vaginal mass show an infiltrating malignant tumour mucosa of the vagina.



**Figure 6:** Immunohistochemistry stains show positive reactivity for HMB 45, S 100 protein and Melan A (HMB 45×400).



Figure 7: Immunohistochemistry stains show positive reactivity for HMB 45, S 100 protein and Melan A (S100 protein x200).



dense cytoplasm. Presences of tumour diathesis in the background suggestive of a malignant lesion happen near the cervix. Confirmation test with biopsies from the site of the lesion shows that the patient is having malignant melanoma of the vagina. Accurate diagnosis of melanoma is a great challenge especially in rare site. Hence, the use of immunohistochemical studies and confirmation via tissue biopsy very crucial to ensure an accurate diagnosis and timely patient management. Big tumour size and evidence of lymph nodes metastases associated with poor prognosis; however surgical removal of gross tumour will improved clinical outcome [2,5-7]. Vaginal melanoma is a very aggressive tumour and the overall prognosis is very poor despite the treatment modality given [4] (Figures 6-8).

# Conclusion

Pap smear test is a reliable screening test for pre-cancerous and cancerous lesion. Although rare, malignant melanoma must be considered as a differential diagnosis of primary vaginal malignancy.

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