

## Primary Malignant Melanoma of Uterine Cervix

Ramesh Shrestha<sup>1</sup>, Purbesh Adhikari<sup>2</sup>, Surya Prasad Rimal<sup>1</sup>, Pritha Basnet<sup>1</sup>, Pappu Rijal<sup>1</sup>, Mohan C. Regmi<sup>1</sup>

<sup>1</sup>Department of Obstetrics and Gynaecology, BPKIHS, Dharan, Nepal

<sup>2</sup>Department of Pathology, BPKIHS, Dharan, Nepal

Received: January 22, 2020

Accepted: May 5, 2020

### ABSTRACT

Primary malignant melanoma of cervix (PMMC) is rare and aggressive cancer of uterine cervix. It presented as vaginal discharge, post coital bleeding and blackish cervical growth that was biopsied and radical hysterectomy performed immediately after getting the histopathological diagnosis at stage-1B2 (FIGO staging, 2018). Post-treatment, she was recurrence free at nine months of regular follow up visit.

**Keywords:** cervix, malignant, melanoma, primary

*Citation :* Shrestha R, Adhikari P, Rimal SP, Basnet P, Rijal P, Regmi MC. Primary Malignant Melanoma of Uterine Cervix. Nep J Obstet Gynecol. 2020;15(30):86–88. DOI: 10.3126/njog.v15i1.29352

### INTRODUCTION

Malignant melanoma is a common neoplasm of the skin and mucous membranes accounting for 1% of all cancers.<sup>1</sup> About 3-7% of all malignant melanomas in women develop within the genital tract, majority in vulva and vagina and very rarely in the ovary, uterus, and uterine cervix.<sup>2</sup> The incidence of malignant melanoma of female genital tract has been estimated at 1.6 cases per million. Primary malignant melanoma of the uterine cervix (PMMC) is a rare entity for less than 2% of all female genital tract melanomas. PMMC originates from the melanocytic cells of the cervix.<sup>3</sup>

At least 78 reported cases of PMMC have been found while searching literature. It has poor prognosis regardless of the stage because it is usually diagnosed at an advanced stage and it spreads hematogenously at early stages through the vascular plexuses around the female genital tract.<sup>4</sup> Diagnosis is primarily made by histopathological examination added by immunohistochemistry (IHC). Perhaps because of its exceedingly rare presentation, there are no prospective or retrospective studies assessing the outcomes of various treatment modalities.

### CASE

A 48 years old, Para-2, postmenopausal woman had vaginal discharge and lower abdominal pain for three months, and post coital bleeding and dyspareunia for one month. There was 3-4 cm sized blackish, necrosed, friable polyp with smooth surface protruding from the anterior lip of cervix and free vaginal fornices and vaginal walls. Uterus, adnexa, parametria and rectal mucosa were normal [Figure-1].



**Figure-1: Speculum examination showing blackish, necrosed, friable cervical melanotic lesion with smooth surface protruding from the anterior lip of cervix and free vaginal fornices and walls - primary malignant melanoma of uterine cervix (kept with permission)**

### CORRESPONDENCE

Dr Ramesh Shrestha

Department of Obstetrics and Gynaecology, BPKIHS, Dharan, Nepal

Email: sthamesh007@gmail.com; Mobile: +977-9842352484

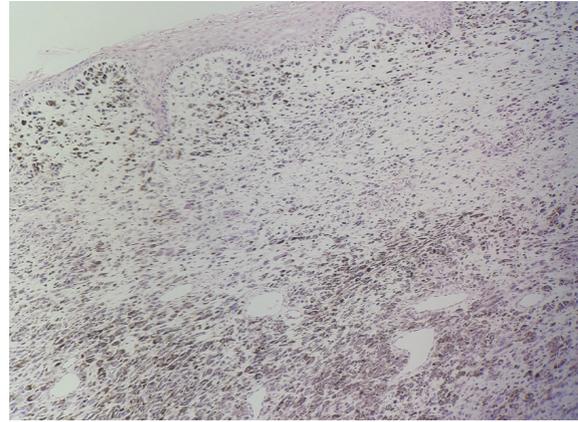
Cervical polypectomy specimen showed the features of melanoma containing intracytoplasmic and extracellular dark brown to black non retractile pigments indicating the possibility of PMMC. Her detailed physical, systemic and ophthalmoscopic examination were normal ruling out melanotic lesion in skin and uveal tract. Computed tomography (CT) of whole abdomen and thorax showed bulky uterus with a heterogeneous necrotic lesion in cervix of 3.4x3.3 cm, posterior wall uterine fibroid indenting the endometrium, no enlarged intra-abdominal, mediastinal and inguinal nodes, no parametrial involvement, and few tiny hepatic and splenic cysts. The tumor was labelled as PMMC; Stage IB1 (FIGO staging, 2009) and Stage IB2 (FIGO staging, 2018).

She underwent Type C1 open radical hysterectomy with bilateral pelvic lymph nodes dissection. She did well in her postoperative period and was discharged on seventh postoperative day. Gross pathological examination revealed well defined, solid, lobulated blackish lesion measuring 5x3x2.7cm with nodular architecture and intervening septa circumferentially involving whole of the cervix along with a posterior wall fibroid of size 3.5x3.2x3 cm distorting the endometrial cavity [Figure-2].



**Figure-2: Gross specimen of Type C1 radical hysterectomy with bilateral pelvic lymph nodes dissection showing melanotic lesion at the cervix and myoma at the right lateral wall of the uterine body. (Kept with permission)**

Microscopic examination revealed atypical cells in sheets, nests, fascicles with epithelioid to spindle shaped nuclei, vesicular to hyperchromatic chromatin, irregular nuclear membrane, prominent nucleoli, moderate amount of eosinophilic cytoplasm, mitotic count of 2-3/mm<sup>2</sup> and brown to black non retractile pigments with less than one-third cervical stromal invasion and no lymphovascular space invasion. The vaginal cuff margin and parametria were free of tumor but one out of eight pelvic lymph nodes was involved by isolated tumor cells [Figure-3].



**Figure-3: Photomicrograph showing dense and diffuse proliferation of atypical melanocytes in the stroma of the ectocervix containing intracytoplasmic and extracellular dark brown to black non retractile pigments with mitotic count of 2-3/mm<sup>2</sup> (H and E, 100x). (Kept with permission)**

The decision of observation was made and no adjuvant treatment was given in view of radio- and chemo-resistant tumor. She was doing well and asymptomatic on her third follow up visit at nine months and post-treatment CT of abdomen and thorax showing no evidence of recurrence.

## COMMENTS

PMMC is a rare entity. It occurs mainly in the sixth decade of life, and is five times less common than primary vaginal or vulvar malignant melanoma. Cervical melanoma is usually secondary to local extension from vagina or vulva or the hematogenous dissemination from a primary melanoma located elsewhere in the body.<sup>5</sup> Johnston reported the first case of malignant melanoma of the cervix in 1889.<sup>6</sup> Cid was the first to report the presence of melanin containing cells on 3.5% of uterine cervixes. Melanocyte migration from neural crest or melanocytic differentiation from the endocervical epithelium are two theories for the presence of those melanocytes on the cervix.<sup>7</sup> PMMC may be either melanotic or amelanotic. Diagnosis of amelanotic melanomas may be problematic due to the absence of pigment. Diagnosis is based on gynecologic examination, histopathology and confirmed with IHC by staining with melanocytic markers like S-100 and HMB-45.<sup>8</sup> In this patient, presence of atypical cells with intracytoplasmic and extracellular dark brown to black non retractile pigments made the diagnosis easier though the IHC facility is not available.

Morris and Taylor<sup>9</sup> have formulated the following diagnostic criteria for PMMC such as: Presence of melanin in the normal cervical epithelium; Absence of melanoma elsewhere in the body; Demonstration of junctional change in the cervix; and Metastases according to the pattern of cervical carcinoma.

It is recommended to use the FIGO staging system, rather than Clark or Breslow for cancer staging as this correlates better with survival.<sup>8</sup> There is no general consensus to which would be the optimal management strategy. Its rarity, limited experience involving a small number of case reports and the unpredictable biologic behavior of the tumor make it difficult to critically outline optimal therapy. Treatment of PMMC is primarily surgical, including radical hysterectomy, pelvic lymphadenectomy, and upper vaginectomy if necessary, to obtain clean surgical margins of at least 2 cm with or without adjuvant therapy. Radiological imaging helps to determine the degree of tumor extension and tailor the surgical treatment.

PMMC is both a radio and chemo-resistant tumor. There is still lack of evidence on the efficacy of postoperative radiation or chemotherapy.<sup>10</sup> Radiotherapy may be useful for: palliative treatment of an inoperable tumor for tumor shrinkage, adjuvant therapy when satisfactory surgical resection is not achieved, advanced stage disease, and residual disease

or recurrence after surgery.<sup>1</sup> There are no proven chemotherapeutic regimens which significantly reduce the likelihood of recurrent disease. The agent most widely used is dacarbazine with response rates of 15-20%.<sup>11</sup>

PMMC is a highly aggressive tumor with local, regional and distant recurrence usually within a short span of few months to two years despite radical treatment. Accurate survival projection is not available because of its rare presentation, lack of evidence of optimal treatment strategy and lack of follow up data. The prognosis is generally poor regardless of stage and treatment as 87.5% of patients reported in the literature died within 36 months of diagnosis.<sup>12</sup> The survival time reported in the literature ranges from 6 months to 14 years (22.9 months mean survival).<sup>13</sup> The 5-year survival rate was 25% for stage I, 14% for stage II and 0% for stage III and IV from review literature of primary cervical melanoma.<sup>14</sup>

## CONCLUSIONS

Primary malignant melanoma of uterine cervix requires a prompt diagnosis and early surgical treatment because of its aggressive nature after excluding the existence of primary foci elsewhere in the body. Cervical melanoma is a radio and chemo-resistant tumor, and radical surgery is the preferred treatment.

## REFERENCES

- Morrow CP, DiSaia PJ. Malignant melanoma of female genitalia: a clinical analysis. *Obstet Gynecol Surv.* 1976;31(4):233-271.
- Podczaski E, Abt A, Kaminski P. A patient with multiple malignant melanoma of lower genital tract. *Gynecol Oncol.* 1990;37(3):422-6.
- Dematos P, Tyler D, Seigler HF. Mucosal melanoma of the female genitalia: a clinicopathologic study of forty-three cases at Duke University Medical Center. *Surgery.* 1988;124(1):38-48.
- Pusceddu S, Bajetta E, Carcangiu ML, Formisano B, Ducceschi M, Buzzoni R. A literature overview of primary cervical malignant melanoma: an exceedingly rare cancer. *Crit Rev Oncol Hematol.* 2012;81(2):185-95.
- Gupta S, Sodhani P, Jain S. Primary malignant melanoma of uterine cervix: a rare entity diagnosed on fine needle aspiration cytology—report of a case. *Cytopathology.* 2003;2013:153-6.
- Johnston GW. Melanotic sarcoma of the cervix uteri. *Md Med J.* 1889;20:426.
- Cid JM. Melanoid pigmentation of the endocervix. *Ann Anat Pathol.* 1959;4:617-28.
- Mordel N, Mor-Yosef S, Ben Baruch N, Anteby SO. Malignant melanoma of uterine cervix: case report and review of the literature. *Gynecol Oncol.* 1989;32(3):375-80.
- Morris HJ, Taylor HB. Melanomas of the vagina. *Am J Clin Pathol.* 1966;46(4):420-6.
- Cantuaria G, Angioli R, Nahmias J, Estape R, Penalver M. Primary malignant melanoma of the uterine cervix. *Gynecol Oncol.* 1999;75(1):170-4.
- McClay EF, Mastrangelo MJ. Systemic chemotherapy for metastatic melanoma. *Semin Oncol.* 1988;15:569-77.
- Nilsson PJ, Ragnarsson-Olding BK. Importance of clear resection margins in anorectal malignant melanoma. *Br J Surg.* 2010;97(1):98-103.
- Santoso JT, Kucera PR, Ray J. Primary malignant melanoma of the uterine cervix. Two case reports and a century's review. *Obstet Gynecol Surv.* 1990;45(11):733-40.
- Lee JH, Yun J, Seo J-W, Bae G-E, Lee J-W, Kim SW. Primary malignant melanoma of cervix and vagina. *Obstet Gynecol Sci.* 2016;59(5):415-20.