CASE REPORT

Small cell neuroendocrine carcinoma of Vagina: A rare case report

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SUMMARY

Small cell neuroendocrine carcinoma of the vagina is a rare form of primary vaginal cancer. It is an aggressive vaginal carcinoma with poor prognosis. Most of the reported cases were among women aged 40-70 years old. Owing to its aggressiveness, multimodal treatment, including surgery, radiotherapy, and chemotherapy, has been suggested. However, many women present with metastasis and eventually succumb to the disease. Here, we report a case of vaginal neuroendocrine carcinoma in a 29 year old lady which we managed at our institution. She presented with a short history of right vulvovaginal swelling of one month duration and was treated for vulvovaginal abscess.

INTRODUCTION

Small cell neuroendocrine carcinoma of the vagina is a rare form of primary vaginal cancer, accounting for 2% of all gynecological malignancies.[1] In the English literature, only 45 cases have been reported.[1,4,9] It is known for its aggressiveness, poor prognosis, and difficulty in treatment.[1] Most of the reported cases were among women between 40-70 years old. However, in our case report, it involved a young woman with symptoms mimicking infection. Due to the less common presentation of small cell neuroendocrine carcinoma of the vagina, especially in younger age groups, she was misdiagnosed as having a vulvovaginal abscess. The aim of this case report is to create awareness that neuroendocrine carcinoma of the vagina can also present with symptoms mimicking infection and abscess. A high index of suspicion should be maintained, especially when the patient does not respond to initial antibiotics.

CASE PRESENTATION

A 29-year-old married woman, para 0+1, presented to the emergency department with complaints of right vulvovaginal swelling of one month's duration associated with worsening pain at the perineum. She was initially administered oral antibiotics for 1 week from the primary health clinic; however, her condition did not improve. The swelling increased in size and became more painful. There was no pus discharge or lower abdominal pain present. There was no weight loss or appetite. No other significant medical or family histories were obtained.

She was examined by the gynecological team, which showed a right vulvar mass extending to the right vagina measuring 6 × 5 cm, which was tender on palpation and hard. No pus points were observed. The diagnosis at the time was a right vulvovaginal abscess. The inguinal lymph nodes were enlarged bilaterally. She underwent incision and drainage of the right vulvovaginal wall swelling. Intraoperatively, the swelling measured 5 × 5 cm and extended to the right perineum. The vaginal wall appeared unhealthy, and the tissue was sent for histopathological examination. Her cervix appeared normal, and liquid cytology of the cervix was performed.

Microscopic examination revealed neoplastic tissue composed of diffuse solid sheets and cords of highly atypical cells with scant and discernible cytoplasm, ovoid to slightly spindled nuclei with hyperchromatic and dispersed chromatin, and inconspicuous nucleoli. The tumor demonstrated a small cell neuroendocrine carcinoma morphology.

On immunohistochemistry (IHC), the tumor was positive for synaptophysin, chromogranin, and CD 56 with a high Ki67 index. Liquid-based cytology of the cervix was negative for intraepithelial lesions or malignancy.

An MRI of the pelvis dated 22.11.2024 was done to assess the extent of the disease. It showed a lobulated mass involving the lower third of the vagina, extending to the right vulvar region, epicentered in the vulvar region, exhibiting an intermediate signal with homogeneous enhancement and local infiltration (Figure 1). Anteriorly, it abuts the urethra with no clear fat plane. Posteriorly, it involves the lower third of the posterior vaginal wall with no clear fat plane with the anterior anal canal wall. There were also right iliac and bilateral inguinal lymph node metastases (Figures 2,3). Computed tomography (CT) of the thorax, abdomen, and pelvis done on 22.11.2024 showed distant metastasis to the lungs and paratracheal and hilar nodes. No PET scan was performed because of the unavailability of PET scans in government hospitals in Sarawak at the time of presentation.

The case was discussed in a multidisciplinary team meeting (MDT) with an oncologist, radiologist, pathologist, and gynaeoncologist . The conclusion that the MDT was diagnosis of primary small cell neuroendocrine carcinoma of the vagina (FIGO stage IVB), and the agreed treatment plan was palliative chemotherapy due to the advanced disease. The patient and her husband were informed of the diagnosis and treatment plan and agreed to palliative chemotherapy.

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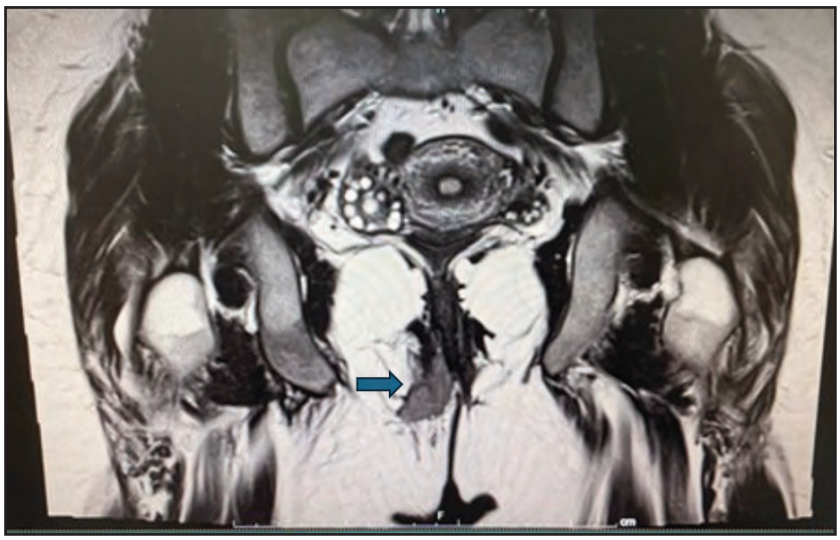

Fig. 1: Coronal view of MRI of the pelvis demonstrated lobulated mass involving lower third of vagina extending to right vulva region

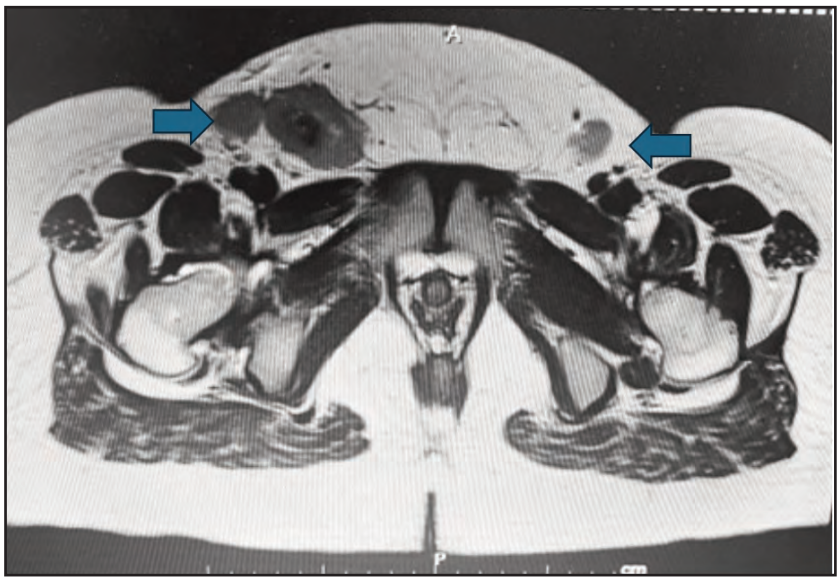

Fig. 2: Axial view of MRI pelvis showing bilateral inguinal lymph node metastases

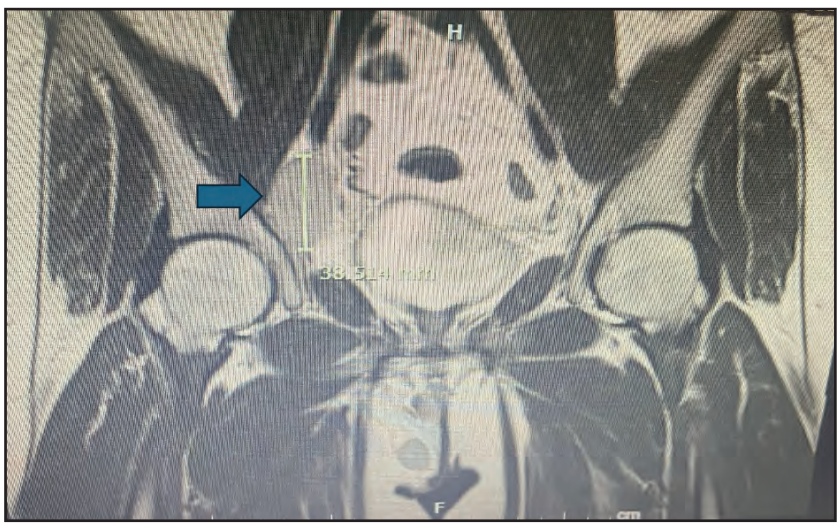

Fig. 3: MRI of pelvis showing enlarged right external iliac lymph nodes

She was subjected to palliative chemotherapy with seven cycles of carboplatin and etoposide by the oncology team. A CT scan after seven cycles of chemotherapy was performed on 19.6.2025, 9 months after the diagnosis, and showed a slight reduction in the size of the vulva vagina mass and the inguinal and external iliac lymph nodes. However, new bone metastasis was detected involving both inferior and superior pubic rami, pubic tubercle, right ischium, left ilium, and T9 vertebral body.

DISCUSSION

Neuroendocrine tumors are a spectrum of malignancies, with small cell carcinoma being the most aggressive form. Most small cell carcinomas originate from the lungs, and 5% are extrapulmonary.[1] Primary small cell carcinoma of the vagina is rare, with only 45 cases reported worldwide.[1-2,4,9] The first case of primary small cell carcinoma of the vagina was reported in 1984 by Scully et al.[7]

The clinical presentation varies from asymptomatic to those who present with symptoms such as vaginal mass, vaginal pain, dyspareunia, vaginal discharge, or postcoital bleeding.[1,4,6] Our patient presented with pain and swelling in the vagina. Due to its non-specific presentation and rarity, diagnosis is often delayed. Patients may already have metastatic disease at the time of diagnosis.

The association between HPV and small cell neuroendocrine carcinoma of the vagina remains unexplored. A systematic review by Capote et al. showed that only four of the 45 reported cases were hPV-positive. Three of them were HPV 18, and another was high risk non 16, 18 HPV, which was not specified.[9] More research is needed to identify any association with HPV.

Owing to the aggressiveness of the disease, 50% of patients present at an advanced stage.[4] The median survival time is 11 months, and approximately 85% of patients die within 12 months after the initial diagnosis.[4,8] As the disease is rare, there is still no consensus on the standard treatment. Complete remission with radiation and/or combination chemotherapy in early stages in cases with smaller tumor sizes (ranging from 0.5 to 3 cm) can be seen.[4]

Multimodal treatment with surgery, chemotherapy, and radiation is recommended even in the early stages because of the aggressiveness of the disease. Surgery is usually recommended for cases with smaller tumor sizes (0.5–3 cm) and localized disease with no evidence of metastasis.[2,4] Recommended surgery for early stage disease depends on the location of the lesion. If it involves the upper third of the vagina, radical hysterectomy and vaginectomy are recommended.[9]

For locally advanced disease, the suggested management is combination chemotherapy with radiation therapy, including external beam radiotherapy to the pelvis up to 45 Gy, followed by brachytherapy.[2,9] Two commonly used chemotherapy regimens are cyclophosphamide, doxorubicin, and vincristine or cisplatin and etoposide.[2,4] A systematic review by Capote et al. showed that the median OS of those who received surgery plus radiation was 29 months, and for those who received concurrent chemoradiation, it was 17months.[9]

Currently, the role of immunotherapy is being investigated in small cell neuroendocrine carcinoma; however, it is more focused on lung cancer.[10] There was a report on RRx-001 (an M2-to-M1 macrophage stimulating agent) as maintenance after cisplatin/etoposide as first line, but progression was observed after 6 weeks of treatment.[9-10]

In conclusion, small cell neuroendocrine carcinoma of the vagina is a rare form of vaginal cancer. The presentation is usually nonspecific and typically seen in the postmenopausal age group. Therefore, diagnosis is often delayed, and patients usually present at an advanced stage where treatment is usually palliative.

Owing to the aggressiveness of the disease, treatment should be multimodal. Surgery is usually recommended for small tumors with no evidence of metastasis. For those with locally advanced disease, a combination of chemotherapy and radiation therapy is recommended. More trials should be conducted to identify the most effective treatment modality for vaginal small cell neuroendocrine carcinoma.

REFERENCES

1. Asghar A, Usman A, Sheikh A, et al. Small Cell Neuroendocrine Carcinoma of the Vagina: A Rare Presentation. Cureus 2023; 15(7): e42387.
2. Puja K, Arya AK, Yadav A, Durgesh. A Case Report on Primary Neuroendocrine Cancer of Vagina. Clin Med Rev Case Rep 2021; 8: 360.
3. Kostamo K, Peart M, McKenzie N, Holloman C, Carlan SJ, Maksem J et al. Novel treatment of small cell neuroendocrine of the vagina. Case Rep Oncol Med 2018: 9157036
4. Pongsuvareeyakul T, Garcia-Moliner M, Lokich E, Dizon DS, Singh K: Small cell neuroendocrine carcinoma of vagina: report of a unique case with literature review. Cancer Treat Res Commun. 2022; 33: 100645. 10.1016/j.ctarc.2022.100645
5. Bidkar VC, Acharya G, Kulkarni KA, et al. Neuroendocrine Carcinoma of Female Genital Tract: Series of Nine Cases. Indian J Gynecol Oncolog 19, 1 2021. https://doi.org/10.1007/s40944-020-00480-x
6. Kalampokas E, Giannis G, Alexandrou P, Kritikos E, Triantafyllidou O, et al. Small-cell neuroendocrine carcinoma of the vagina: A case report. Int J Gynaecol Obstet 2023; 161(2): 678-9.
7. Scully RE, Aguirre P, DeLellis RA. Argyrophilia, serotonin, and peptide hormones in the female genital tract and its tumors. Int J Gynecol Pathol 1984; 3: 51-70.
8. Khurana A, Gupta G, Gupta M, Kaur M. Primary neuroendocrine carcinoma of the vagina with coexistent atypical vaginal adenosis : A rare entity. J Can Res Ther 2013;9:328-30.
9. Capote S, Domènech M, Valdivieso L, et al. Small Cell Carcinoma of the Vagina: First Systematic Review of Case Reports and Proposal of a Management Algorithm. Journal of Lower Genital Tract Disease 2023; 27(1): 56-67.
10. Paz-Ares L, Dvorkin M, Chen Y, et al. Durvalumab plus platinum-etoposide versus platinum-etoposide in first-line treatment of extensive-stage small-cell lung cancer (CASPIAN): a randomised, controlled, open-label, phase 3 trial. Lancet 2019; 394: 1929-39.