A RARE METASTATIC REGION OF CERVICAL CANCER; THE BRAIN: A CASE REPORT

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ABSTRACT

Background: Cervical cancer metastasizes commonly to the bone, lungs, liver and the supraclavicular lymph nodes. Rare sites of metastasis the brain, breast, paraspinal muscles, duodenum and heart have been reported. **Case report:** A 53-year-old postmenopausal woman presented to our facility with a one-month history of vaginal bleeding. She was found to have an exophytic cervical mass on pelvic examination. She was managed as a case of stage IIIB cervical cancer. Histology revealed Squamous Cell Carcinoma type. She had radiotherapy and was symptoms free. She represented 3 months later with visual disturbance, headache and vomiting. She was found to have metastatic lesion to her brain. She survived for 3 months and 3weeks after first treatment. **Conclusion:** The prognosis of cervical cancer patients with brain metastases is frequently poor with median survival of only a few months such as in this case who survived 3 months and 3 weeks after first treatment. Only few reports have incidences of long-term, disease-free survival in these patients.

Keywords: Brain, Cervical Cancer, Metastatic Region

INTRODUCTION

Worldwide, the incidence and mortality from cervical cancer are second only to breast cancer, and in parts of the developing world, cervical cancer is the major cause of death in women of reproductive age.[1] The average age at diagnosis is 50 years.[2] About 86% of cervical cancers occur in developing countries representing 13% of female cancers.[3] The incidence of cervical cancer is very high in sub-Saharan Africa.[1]

Cervical cancer most often spreads by local extension and through the lymphatics to lymph nodes.[3] Distant, hematogenous metastases occur in 12% of the cases with the common sites including liver, lung, and bone.[3] Metastases to the central nervous system are extremely rare, usually seen late in the course of the disease, and have poor prognosis.[3,4] A case of carcinoma of the cervix with metastases to the brain is discussed.

Access this article online

Quick Access Code

WEBSITE: www.kjmsmedicaljournal.com

DOI: 10.36020/kjms.2020.1402.009

CASE REPORT

A 53-year-old P6[+0], postmenopausal woman presented to the gynaecological clinic of the Lagos University Teaching Hospital, Lagos on the 22/7/2010 with one-month history of postmenopausal vaginal bleeding. She was 7 years postmenopausal. She had a history of watery vaginal discharge and mild lower abdominal pain radiating to the right leg. Her general and systemic exams were within normal limits.

On pelvic examination, she had an exophytic cervical mass that invaded the parametrium and pelvic sidewall. A biopsy of the lesion

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revealed a moderately differentiated Squamous Cell Carcinoma of the cervix. After a thorough clinico-radiologic workup, it was staged as FIGO stage IIIB moderately differentiated Squamous Cell Carcinoma of the cervix. She was referred to the Radiotherapy unit.

At presentation in our unit (18/8/2010), she was noticed to be bleeding profusely with a packed cell volume of 20%. She had hemostatic radiation 15Gy in 3fractions over 3days and transfused with 4 units of packed cells. The bleeding stopped after she completed 3 days of external beam radiotherapy. She thereafter had chemoradiation with external beam radiation 40Gy in 20fractions over 4weeks with weekly intravenous Cisplatin 40mg per week. The treatment was completed on 17/09/2010 and she remained asymptomatic for 3 months thereafter.

She experienced sudden onset of visual disturbance, headaches and vomiting of 5days duration 3 months after initial treatment. This became more intense necessitating her admission on the 26/12/2010. Her blood parameters were essentially within normal limits. She was commenced on intravenous dexamethasone, however, she suddenly lapsed into coma 3 days following admission. Computer Tomography scan revealed 5x3cm lesion in the brain, left post parietal and occipital regions with extensive edema, metastatic workup did not show any other lesion. While in the state of coma, she was observed to have focal seizures in the right upper arm. She was optimized with steroids but never came out of coma and died a week after readmission.

DISCUSSION

Metastatic brain tumours represent the most common neurological complication of systemic cancers.[5] Central nervous system (CNS) involvement by cervical cancer is however uncommon.[6] Gynecologic malignancies rarely metastasize to the brain. Choriocarcinoma is the most known gynecological malignancy that frequently metastasizes to the brain and it accounts for 35% of all brain metastasis in gynecological malignancies.[7] Carcinomas of the cervix similar to other gynecologic malignancies have a low propensity to metastasize to the brain. The reported incidence of brain metastasis in cervical cancer is 0.4%-1.2%.[6,7]

Cormio et al reported that the median age at diagnosis of CNS involvement was 52years[6] similar to our patient's age of 53 years. Overall median survival was 3 and 4months as reported by Ikheda and Cormio respectively.[6,8]

Cervical carcinoma spreads locally mostly through lymphatic vessels to the retroperitoneal nodes and hematogenous spread which is rare.[3,7] Hematogenous spread is the mechanism responsible for distant metastases.[7] Henriksen first reported cerebral metastasis of a cervical carcinoma in 1949 in an autopsy study[9] while Chura and colleagues suggested that the main route of brain metastasis is the vertebral venous system.[10]

The most commonly reported symptoms of brain metastasis include headache and hemiplegia.[11,12] Others are seizures, dizziness and visual disturbances.[7] The clinical presentation of a patient with brain metastasis is likely to depend on the site of the lesion, our case presented with neurological deficit of visual disturbance and signs of raised intracranial pressure and focal seizure in the right upper arm. This is similar to the presentation pattern in almost all reported patients with brain metastasis from cervical cancer presenting with neurologic sequelae.[12] The metastatic tumour, the surrounding tissue edema, or both are responsible for the neurologic symptoms.[7,11] Our patient lesion was located in the left parietal and occipital regions; disturbance of the visual field was her main presenting symptom and the effect of the mass led to early onset of her coma. In most of the reported cases, symptoms are sudden in onset and appear severe, as seen in our case.

The intracranial metastasis is a late event and a sign of poor prognosis. The role of early diagnosis and treatment yielded positive results in some studies.[3] The treatment of brain metastasis involves radiation therapy,

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palliative craniotomy and debulking surgery, or both, depending on the clinical situation. Surgical excision is usually reserved for solitary lesions or adjacent multiple metastases, cases with diagnostic uncertainty, or with life-threatening and critically located metastases.[7] Patients with nonadjacent, multiple, or inoperable lesions are usually treated with palliative whole brain radiotherapy.[4] Surgical excision of the solitary lesion combined with adjuvant postoperative radiotherapy yields a better survival rate than radiotherapy alone.[8] Radiation surgery, stereotactic radiation therapy, and chemotherapy have also been used for the management of brain metastases with variable success.[4]

CONCLUSION

Cervical cancer is one of the commonest cancers affecting women; however, metastasis to the brain is very uncommon. Overall, the prognosis of cervical cancer patients with brain metastases is frequently poor with median survival of only a few months, such as in this case. Only few reports have incidences of long-term, disease-free survival in these patients.

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Cite this article as: Alabi Adewumi O, Habeebu Muhammad Y, Alabi Adegboyega S, Sowunmi Anthonia C. A Rare Metastatic Region of Cervical Cancer; The Brain: A Case Report**.** KJMS 2020; 14(2): 157 - 159.

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