

## Cerebral metastasis from cervical carcinoma-A case report

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### ABSTRACT

**Background:** Cervical cancer is the most common malignancy among Indian women and central nervous system metastases from cervical cancer are extremely rare. It mostly spreads via local extension and through lymphatics to the retroperitoneal lymph nodes. Through hematogenous dissemination, distant metastasis may occur, common sites being liver, bone and lung. We report the rare case of a woman with history of carcinoma of the cervix, with a solitary solid and cystic right parieto-occipital lobe metastasis, without involvement of any other site in the body.

**Key words:** Cerebral metastasis, cervical cancer, brain metastasis.

### Introduction

Cervical cancer is the most common malignancy among Indian women and second most common among women worldwide. It is also the major cause of cancer deaths in developing countries.<sup>1</sup> It mostly spreads via local extension and through lymphatics to the retroperitoneal lymph nodes. Through hematogenous dissemination, distant metastasis may occur, common sites being liver, bone and lung.<sup>2,3</sup> Central nervous system metastases from cervical cancer are extremely rare. They are usually seen late in the course of the malignancy, and have bad prognosis. Because this event is so rare, there are very few case reports present in the literature related to proper management and prognosis of these cases. We report the case of a woman with history of carcinoma of the cervix, with a solitary right parieto-occipital lobe metastasis, without involvement of any other site in body, and who was managed successfully.

The objective of this article is to report the rare case of solitary solid and cystic cerebral metastasis from cervical cancer and to discuss the clinical features and management options.

### Case Report

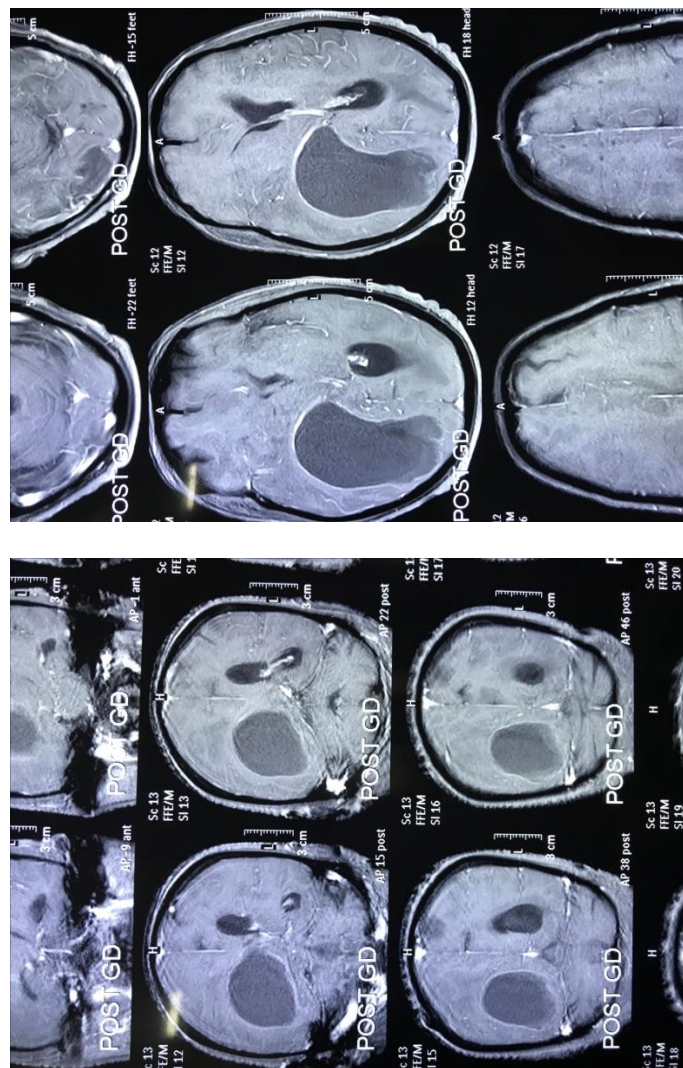
A 63 year old woman presented with complaints of weakness in left half of her body in October 2018. In past history, she was incidentally diagnosed with cervical cancer in 2013, post Total Abdominal Hysterectomy (TAH) which was done for dysfunctional uterine bleeding. Histopathology report of mass post TAH showed “moderately differentiated papillary adenocarcinoma involving cervix and endometrial polyp”. Following which she received radiotherapy and chemotherapy. Routine follow up was done for 3 years and the patient remained asymptomatic during that time.

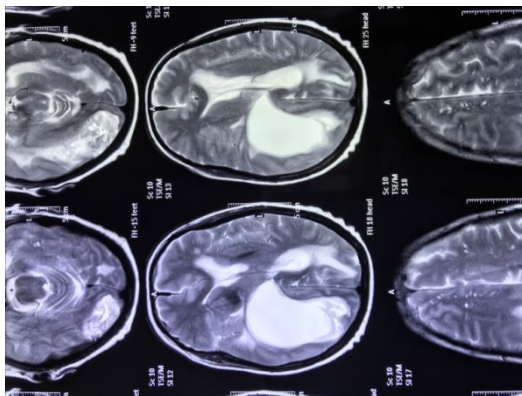
Thereafter in October 2018, she experienced sudden weakness in left half of her body for which she was evaluated in our hospital. An MRI scan (Figure 1) of the brain was advised which

revealed a solid and cystic well-defined space occupying lesion in the right parieto-occipital region. Mass effect was seen causing effacement of right lateral ventricle and midline shift. No other metastases were found when computed tomographic (CT) scans of the thorax, abdomen, and pelvis were done. The positron emission tomographic (PET) scan did not reveal any other metastasis, except for the site of the brain.

Taking into account that tumour was localised, surgical removal of the lesion was planned. Operatively, it was found that cortical thinning was present at site of right parieto-occipital SOL, tumour cyst fluid containing tumour debris and sedimented debris, lastly solid portion of tumour was present at supratentorial region. Right parieto-occipital craniotomy with excision of the space occupying lesion was done. Patient was admitted to ICU postoperatively. Postoperative CT scan revealed right parieto-occipital craniotomy defect with postoperative changes, with parenchymal edema, no intracranial hematoma, no mass effect, normal ventricles and basal cisterns open.

Patient improved gradually and was discharged in satisfactory condition.





## Discussion

There are nearly 100 cases of reported intracranial metastases of cervical cancer in the literature, proper management and prognosis of these patients is not very clear. Tumor cells being present in cerebral circulation does not always results in metastatic disease, it greatly depends on the immune system of the individual, tumor emboli, tissue neovascularization, and characteristic features of the tumor.<sup>2,4</sup>

Metastasis to central nervous system from gynecologic cancers is very rare and choriocarcinoma is the most common tumour which causes cerebral spread.<sup>5</sup> We reported the case of a solitary solid cystic brain metastasis, the primary of which was cervical carcinoma. Cervical carcinoma is one of the rarest tumour to metastasize to brain, its metastasis to brain was first reported in an autopsy study by Henriksen in 1949.<sup>6</sup> However, in recent years an increase in the incidence of cerebral metastasis from cervical carcinomas has been reported. The reason for this increase can be improved survival of the patients of cervical carcinomas due to better management of primary lesion.<sup>7</sup>

The clinical features of a patient of cerebral metastasis mostly depends on the site of the tumour, most common symptoms being hemiparesis and headache.<sup>8</sup> In the present case, weakness of the left side of the body was main presenting complaint as lesion was present in right parieto-occipital region of brain. The management of cerebral metastasis depends on various factors like age of patient, location, size, number, consistency of lesion. Surgical resection is done mostly when the lesion is solitary or multiple adjacent masses are present or in patients with life-threatening masses. In our case as the lesion was solitary, surgical excision was done. The most common management options for cerebral metastasis are radiation therapy and surgery. Palliative whole brain radiotherapy is done for the multiple or inoperable lesions.<sup>9</sup> Even though prognosis of brain metastasis from cervical carcinomas is not very good, some cases of long-term, disease free survival have been reported in literature.<sup>10</sup>

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