

Breast Cancer Intramedullary Metastasis : Case Report and Review of Literature

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ABSTRACT

Intramedullary metastasis is extremely rare, this report describes a case of a women aged 52, with a metastatic breast cancer spreads to brain, spine (vertebrae) and bones under chemotherapy. The patient consults for weakness and troubles walking. MRI has shown intra medullary metastasis. Our goal through this report is to describe a new case of a breast cancer intra medullary metastasis knowing that the most common primitive tumor was related to lung cancer.

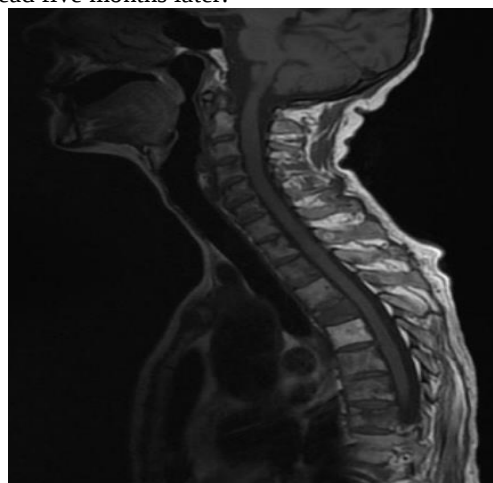
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Introduction

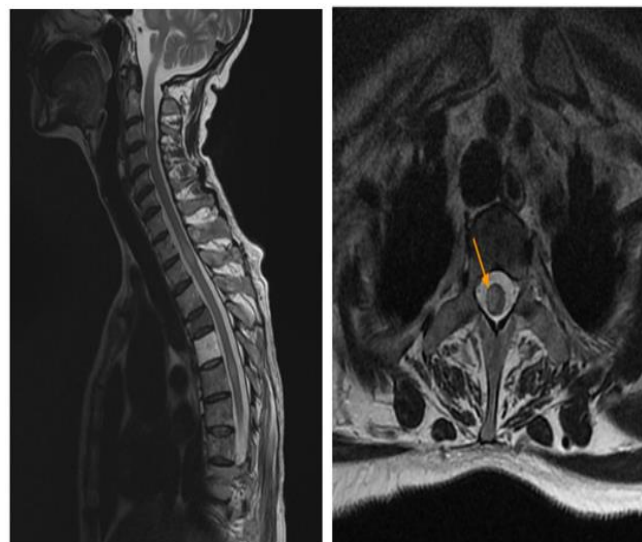
Intramedullary metastasis is a very rare complication (0,1-0,4%) [1], the most common symptom are sensitivity disorders (42,5%), pain (30 %), weakness (30%) [2]. Unlike the other intra medullary tumors, the disorders settle quickly on less than a month[3]. We report a case of a patient with an intramedullary localisation of breast cancer and review of literature

Observation

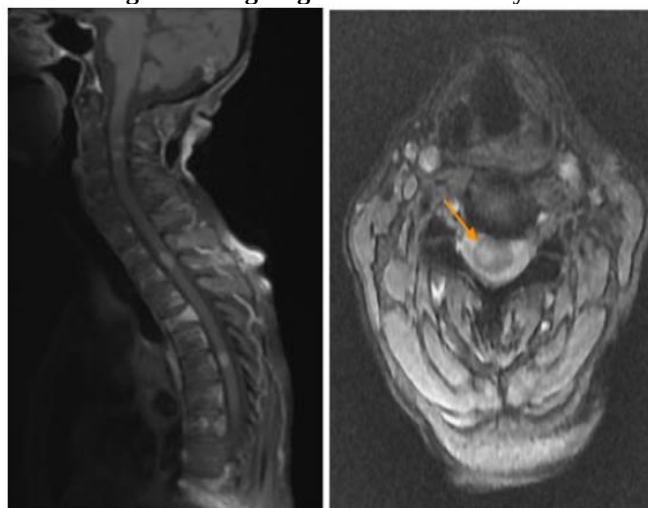
We report a case of a patient aged 52, followed since 2011 for an advanced breast cancer spread to brain, spine and bones under a third line of chemotherapy, who developed paresthesia of the lower limbs and walking troubles. Neurological examination founds signs of pyramidal tract dysfunction and a decrease of vibratory sensation, biological tests were normal. MRI has shown many intra medullary nodular signal abnormalities iso on T1 (Figure 1), high on T2 (Figure 2) that enhance after contrast (Figure 3). Radiotherapy and steroid treatment were started. The patient is dead five months later.



Sagittal T1-weighted MRI before injection showing hypointense vertebral lesions related to bone localization. No evident intramedullary signal abnormality is seen.



Sagittal and axial T2-weighted MRI showing heterogeneous high signal intramedullary lesions.



Sagittal and axial T1-weighted with injection showing the vertebral and intra medullary lesions enhancement's.

Discussion

Intramedullary metastasis are more often noticed on lung cancers in more than a half of the cases, followed by breast tumors (13%), melanoma (9%), lymphoma (5%), kidney's tumors (4%) [4]. The first case was reported by Buchholz on 1898 [5]. Usually, the intramedullary metastasis are rarely asymptomatic. It provokes oedema and compression of the spinal cord leading to pain and sensitivity disorders, weakness and sphincter dysfunction [6]. The spinal cord compression happens more often on the thoracic spine (60 to 80 %), lumbosacral spine (15 to 30%) and less than 10% on the cervical one [7]. MRI represents the choice exam to do because of its sensitivity. On T1-weighted, the spinal cord may appear bumpy, often extensive due to the peri lesional oedema. On T2-weighted, the lesion is iso- to high signal. T1-weighted with injection shows a nodular homogeneous enhancement, sometimes annular one due to central necrosis. The enhancement is intense on more than a half of times. Contrast helps define the tumor separately from edema, and highlights leptomeningeal localization, one not preventing the other, the association was described by Crasto and al. [9]. In this case, MRI has shown an infiltrated spinal cord with many signal abnormalities and enhancement after contrast. No sign of epidural or arachnoid involvement. The localization evokes a spinal cord carcinomatous infiltration with an evocative context. Many differential diagnosis appear as we look back into literature such as astrocytoma, ependymoma, hemangioblastoma and extra dural spinal cord compressions. The treatment of intramedullary metastasis is based on steroid, radiotherapy and chemotherapy although no study has compared the long-term and the functional benefit of each. Partial or complete surgical resection may stabilize neurological disorders, decrease pain and allow the diagnosis confirmation. The speed of evolution and extension prevent this approach. Hormone therapy is proposed for hormone dependent tumors such as breast, prostate [10]. In any case, the prognosis is very pejorative, median survival is around 1 month, most patient died from neurological complications and the cancer dissemination.

Conclusion

Intra medullary metastasis are a very rare secondary localization, little dealt with in literature. In every case of a breast cancer patient with a quick setup neurological disorders, intramedullary metastasis should always be mentioned.

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