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Carcinoma metastasis spread through cerebrospinal fluid pathway. Case report

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ABSTRACT

37-year-old lady with known systemic cancer, breast invasive carcinoma HER2 positive (score 3+) with negative progesterone and estrogenic receptors, treated surgically two years before diagnosing the pathological fracture Th12, associated with Th11 tumoral vertebral body infiltration.

Keywords
carcinoma,
metastasis,
cerebrospinal fluid pathway

INTRODUCTION

The pathways for metastatic spread include both arterial and venous routes, particularly via Batson's venous plexus [1]. While no cases of cerebrospinal fluid dissemination have been previously described, our case supports this route as possible cancerous tumor spread.

The dural metastases are rare, reported to originate from carcinoma of breast or prostate, even rarer from carcinoma of gallbladder, laryngs, Ewing's sarcoma and melanoma [2,3,4]

CASE DESCRIPTION

37-year-old lady with known systemic cancer, breast invasive carcinoma HER2 positive (score 3+) with negative progesterone and estrogenic receptors, treated surgically two years before diagnosing the pathological fracture Th12, associated with Th11 tumoral vertebral body infiltration.

The main complaint was uncontrolled pain, Asia E. She was selected for surgical treatment: posterior approach, Th12 vertebrectomy, posterior fixation, and Th10-L2, arthrodesis with expandable cylinder, Th11-L1, and cement augmented screws in Th11, L1 after radio ablation of metastasis of Th11 vertebral body.

She did well during 2 years, reduced painkillers, using only in SOS. She came back with progressive weakness of inferior limbs and was diagnosed with intramedullary metastasis (conus).

She was submitted to another surgery-microscopic removal of intramedullary metastasis with no neurological improvement. Nine months after, a patient is almost paraplegic with recurrence of the metastasis.

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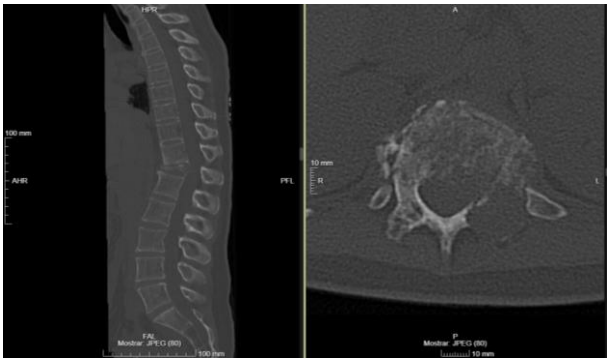

Figure 1. CT scan showing colapsed Th12 vertebral body and transferse apophises and lamina infiltrated by tumor.

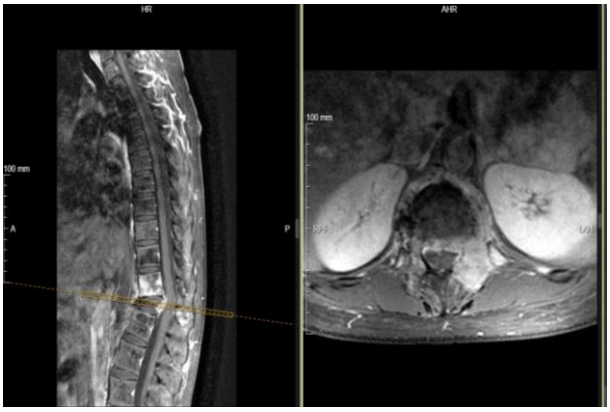

Figure 2. MRI revealing Th12 vertebral body pathological fracture with posterior structures infiltration and Th11 vertebral body metastasis.

Figure 3. Postoperative CT scan after vertebrectomy Th12, Th11 vertebral body cement filling after radio ablation, transpedicular screw fixation Th10,11-L1,2.

We did another attempt to remove the metastasis with good imagological result as seen in the figure.

But the patient was gradually worsening and another MRI revealed multiple cervicothoracic intradural and cranial metastasis with dural implantation. In this case we support the theory of CRF dissemination.

Figure 4. Postoperative X-Ray-conforms good material positioning.

Figure 5. MRI: Conus medullary metastasis.

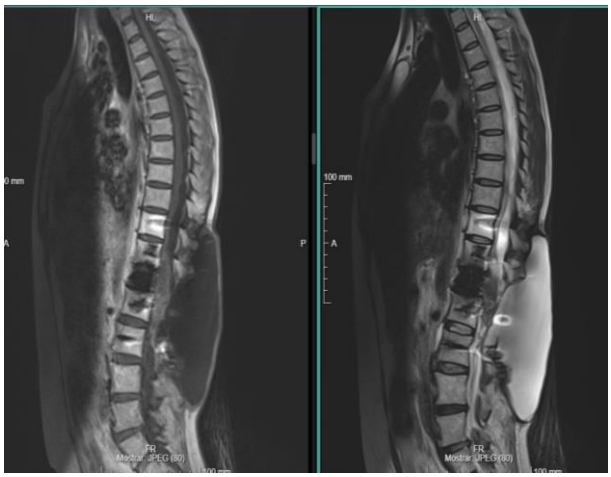

Figure 6. MRI: Medullary metastasis recurrence, huge pseudo meningocele.

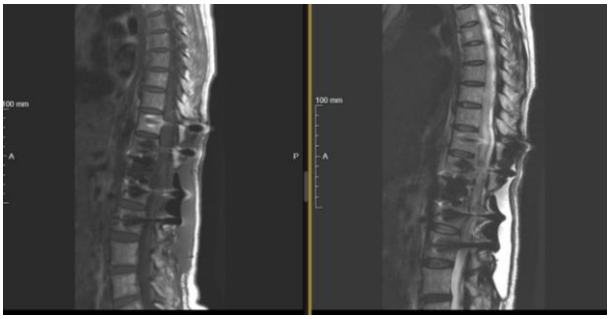

Figure 7. MRI: Postoperative MRI after second metastasis removal.

Figure 8. Cervicodorsal and endocranial dural metastasis.

Conclusion

The scientific approach to dural metastases is of significant relevance, as these cases present considerable challenges for clinicians in routine practice.

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