Beyond the stained back-drop

Lovely Chhabra,¹ Saurabh Joshi,¹ Renu Goyal,¹ Gerald T McGillicuddy²

¹Department of Internal Medicine, Saint Vincent Hospital, University of Massachusetts Medical School, Worcester, Massachusetts, USA
²Department of Neurosurgery, Saint Vincent Hospital, University of Massachusetts Medical School, Worcester, Massachusetts, USA

Correspondence to
 Dr Lovely Chhabra,
 lovids@hotmail.com

DESCRIPTION

A 63-year-old-man presented to hospital with progressive low-back pain over the last 3 months. He also reported weight loss of 30 lbs in last 3 months. MRI of lower spine revealed 1 cm left-sided intradural

extramedullary enhancing lesion at S1-level, with mass effect on the thecal sac (figure 1A,B). Given the clinical history and location of the lesion, MRI of the entire spine (cervical, thoracic and lumbosacral region), and brain were ordered to rule out drop

Figure 1 (A) MRI of lower spine—sagittal view reveals beads of Drop-metastasis. There is 1 cm intradural extramedullary enhancing lesion at S1-level, with mass effect on the thecal sac (marked by arrow). Several smaller nodules can also be seen across lumbar spinal column (marked by arrows). (B) MRI of lower spine—axial view at S1-level reveals 1 cm left-sided intradural extramedullary enhancing lesion as shown earlier. (C) and (D) Brain MRI shows a large enhancing mixed signal intensity lesion. (C) clearly reveals a ring enhancement in the parameian convexity of the left frontal lobe (maximum diameter 1.4 cm), with a fluid level suggestive of associated haemorrhage, a tendency of melanoma. (E) and (F) Cervical spine MRI (sagittal and axial views respectively): show a soft tissue enhancing mass in the posterior soft tissues of the neck in the midline and extending within the interspinous space, with maximum diameter of 3.1 cm.

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Figure 2 (A) Histopathology reveal some hyperchromatic cells with vacuolated nuclei (marked by arrow). (B) Immunohistochemistry staining is positive with Melan-A suggesting malignant melanoma.

metastasis. Brain MRI showed ring enhancing lesion with a fluid level in the left frontal lobe (figure 1C,D). Cervical spine MRI revealed a midline soft tissue enhancing mass (figure 1E,F). Brain lesion and cervical soft tissue mass were excised surgically. Histopathology revealed hyperchromatic cells with vacuolated nuclei and immunochemistry staining was positive for S-100 and Melan-A, diagnostic for melanoma (figure 2A,B). Extensive workup including contrast enhanced CT-scan of the chest,

abdomen and pelvis, positron emission tomography scan, rectal exam and thorough skin exam revealed no evidence of other primary tumour site and history was negative for any prior skin melanoma. Genetic analysis showed V600E BRAF mutation. Patient received radiotherapy and Vemurafenib, and is clinically doing well.

Intradural extramedullary spinal metastases that arise from intracranial lesions are called 'Drop Metastases'.¹ The mechanism of spread is likely via cerebrospinal fluid when the tumour reaches and exfoliates cells into the subarachnoid space, and because of gravitational effects, the lesions may occur at multiple places across the spinal column.^{1 2} Our case represents metastatic malignant melanoma associated with spinal drop metastasis resulting from the intracranial secondary. A diligent multidisciplinary team, neuroimaging characteristics and pathology staining enabled us to go beyond a common symptom—back pain.

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Competing interests None.

Patient consent Obtained.

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Learning points

- Drop metastases refers to spinal metastases that arise from intracranial lesions. High suspicion should be raised especially if a spinal lesion is seen in the intradural extramedullary location and thus appropriate further diagnostic work-up should be pursued, including Pan-MRI of the spine and the brain.
- Tissue manipulation resulting from neurosurgical interventions can enhance the likelihood of drop metastases, though it can occur in patients without prior history of any surgical intervention.
- Depending on the size, location and number of drop metastases, the management may include neurosurgery, radiation and steroid therapy. The long-term prognosis of such patients is however often poor.

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