

Recurrent Medulloblastoma with Intramedullary Metastasis Presenting as Low Back Pain: A Case Report

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INTRODUCTION

- Medulloblastoma is the most common malignant brain neoplasm encountered in the pediatric age group, accounting for approximately 25% of all pediatric brain tumors.¹
- The tumor commonly arises from the cerebellar vermis and may lead to increased intracranial pressure secondary to obstructive hydrocephalus. Leptomeningeal dissemination may occur; however, the tumor rarely affects the intramedullary space.²
- We present a case of a 28-year-old female with intractable back pain secondary to medulloblastoma recurrence with intramedullary metastasis.

CASE DESCRIPTION

- A 28-year-old female with history of adolescent cerebellar medulloblastoma treated with suboccipital craniotomy and chemoradiotherapy, presented with a nine-month history of progressive low back pain with referral to her left lower extremity.
- The pain was described as a band-like, burning sensation over the lower lumbar spine without accompanying bowel or bladder incontinence. Her physical examination was benign with full lower extremity motor strength, intact sensation to light touch, and lack of upper motor neuron signs.
- Oral analgesics and physical therapy trialed for a suspected herniated disc had failed to prove relief.
- Due to persistent pain, whole-spine magnetic resonance imaging (MRI) was obtained which showed an infiltrating enhancing lesion within the spinal canal from L1-L2 to the level of S2-S3 with extension into the sacral foramina.
- MRI brain was notable for scattered foci of nodular enhancement in the posterior aspect of bilateral cerebellar hemispheres.
- Dexamethasone therapy was initiated, and an open biopsy confirmed medulloblastoma recurrence (SHH-activated, subtype 4) requiring emergent salvage chemotherapy with cisplatin/etoposide.
- For severe back pain, the patient was started on a regimen of Methadone 20 mg PO Q12H and Hydromorphone 4 mg PO Q4H PRN leading to significant relief.

DISCUSSION

- Metastatic spinal cord compression (MSCC), secondary to direct tumor expansion or vertebral collapse, requires emergent oncologic evaluation.
- Notably, in a subset of patients back pain may precede onset of neurological signs and symptoms. Motor weakness is often difficult to recognize, sensory deficits may not be indicative of the degree of spinal damage, and bowel and bladder dysfunction are typically late signs.³
- Emergent spinal imaging should be obtained in patients with a history of malignancy and localized or persistent back pain. Among the classic red flags used to warrant screening, a previous history of cancer has shown to meaningfully increase the probability of detecting spinal malignancy.⁴
- Per the American College of Radiology, in patients with suspected cancer, MRI without and with IV contrast should be obtained to aid in localization of the lesion (intramedullary, intradural-extramedullary, and extradural) and guide surgical resection and/or chemoradiotherapy.⁵
- In the case above, rare intramedullary spread of medulloblastoma resulted in a difficult to treat compressive neuropathic pain component requiring initiation of opioid therapy for background and breakthrough pain.
- In patients with MSCC, a multidisciplinary treatment approach should be utilized inclusive of pain management specialists to improve patient function and quality of life.

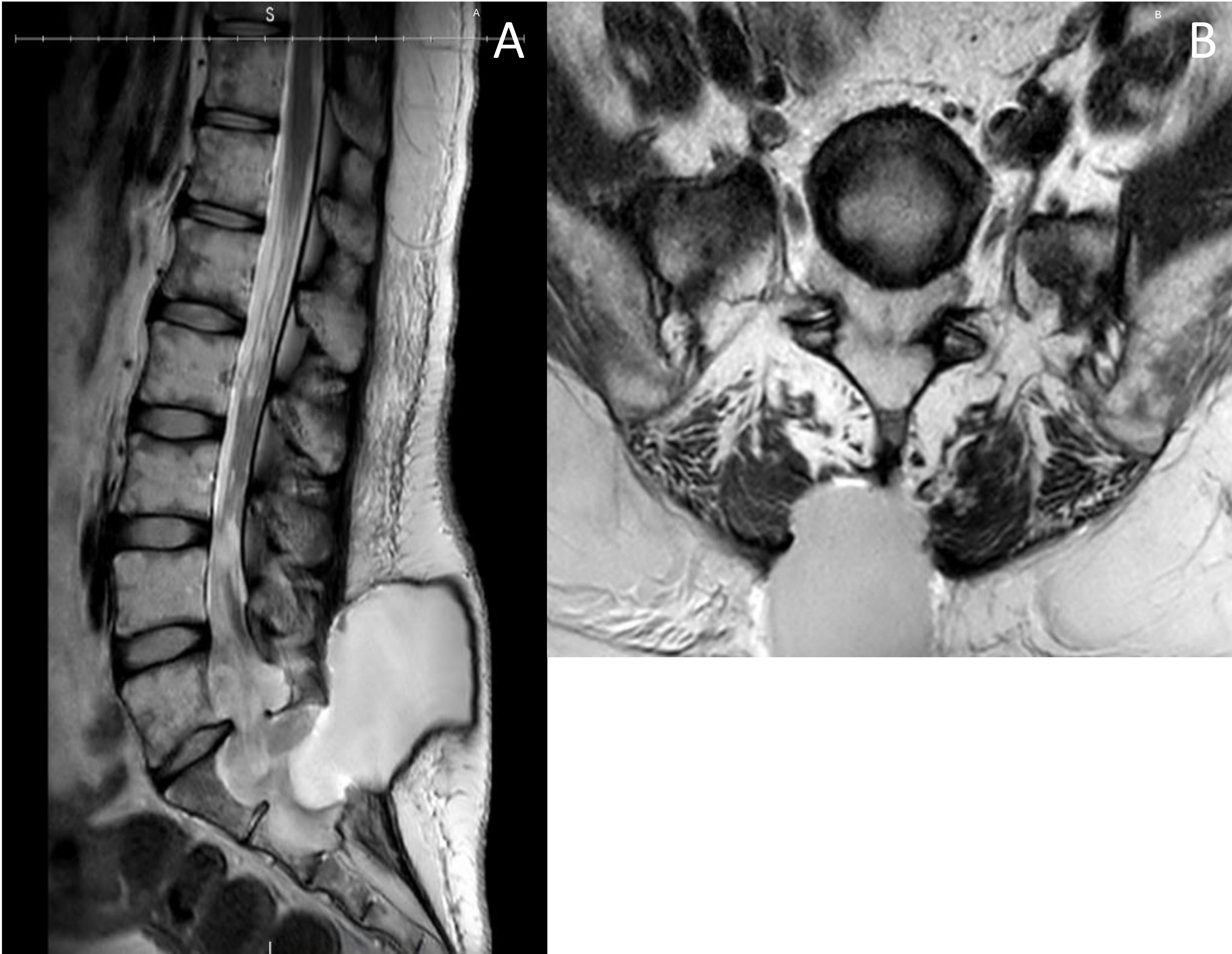


Figure 1. Lumbar spine magnetic resonance imaging (MRI) following two cycles of chemotherapy with cisplatin/etoposide. Sagittal T2- weighted image (A) showing an enhancing lesion occupying the spinal canal L2-S2. Post-operative changes of biopsy seen at S1-S2 with associated pseudo-meningocele. Axial T2-weighted image (B) at L5-S1.

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