# Atypical presentation of metastatic Merkel Cell Carcinoma

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# Background

- Merkel cell: type of skin cell with mechanoreceptor function
- Merkel cell carcinoma (MCC): rare and aggressive
- Metastatic disease common at presentation
- Distant metastatic disease is rare

- Risk factors:
  - Immunosuppressed
  - White
  - Elderly
  - High exposure to ultraviolet light
  - History of skin cancer

# Clinical Presentation

**Case**: 83-year-old White male with worsening back pain, bladder and bowel incontinence, and bilateral lower extremities (BLE) weakness.

Medical history:

- Chronic lymphocytic leukemia
- Prostate carcinoma
- MCC on scalp

Physical exam:

- BLE weakness
- Intact sensation and proprioception

Lab results:

- WBC 234/µL

# Imaging

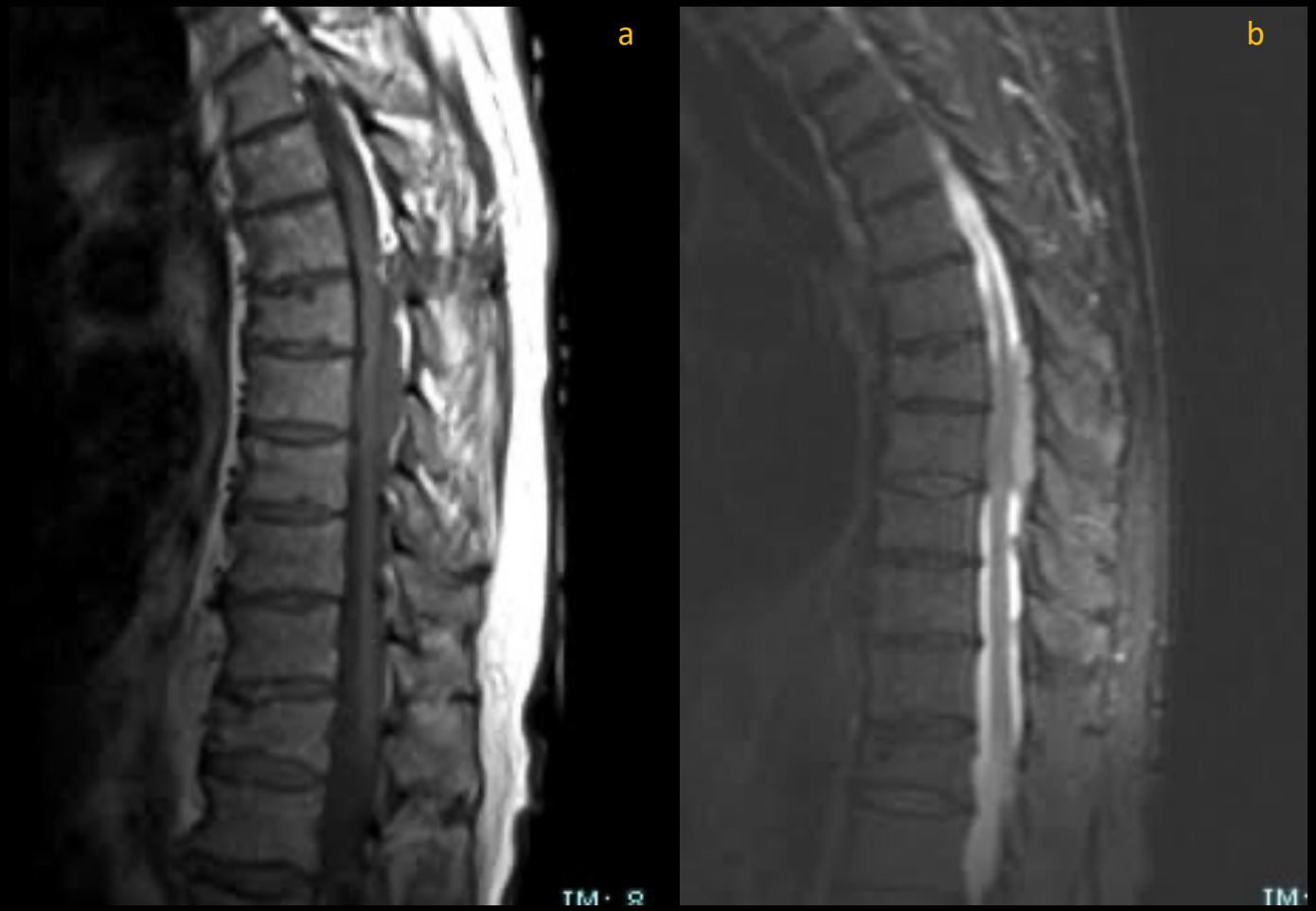



**Image 1:** Sagittal T1 (a) and T2 (b) weighted images of the thoracic spine demonstrates a soft tissue signal intensity mass with spinal stenosis from T7 to T9 without marrow edema or remodeling.

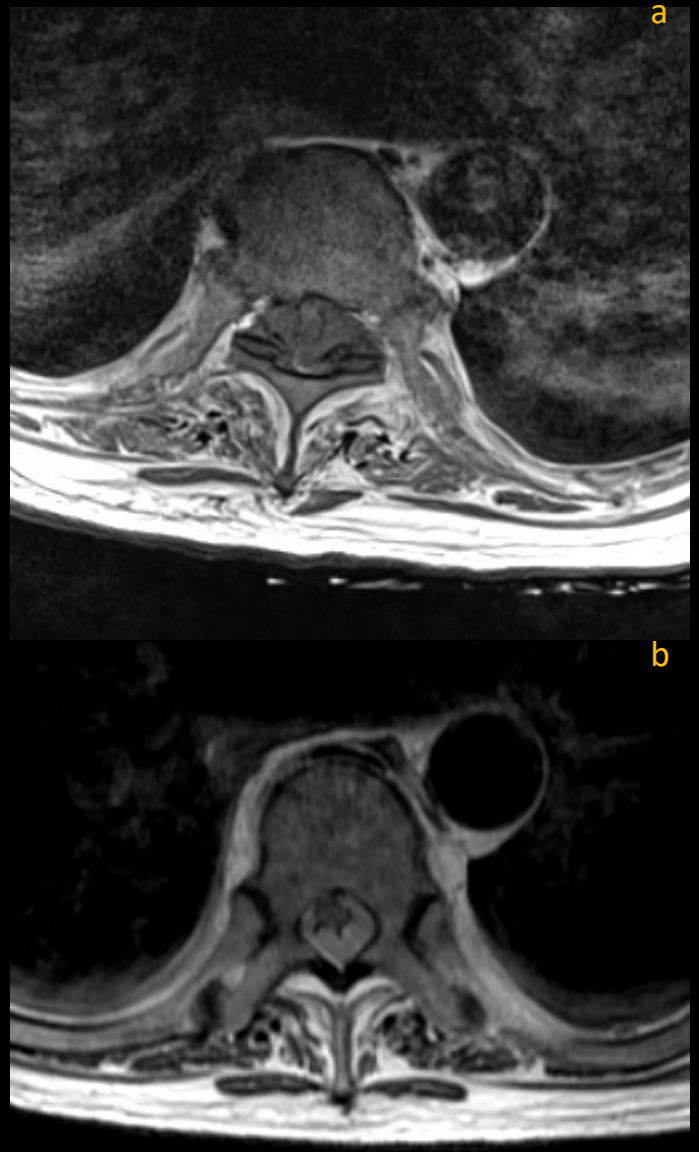
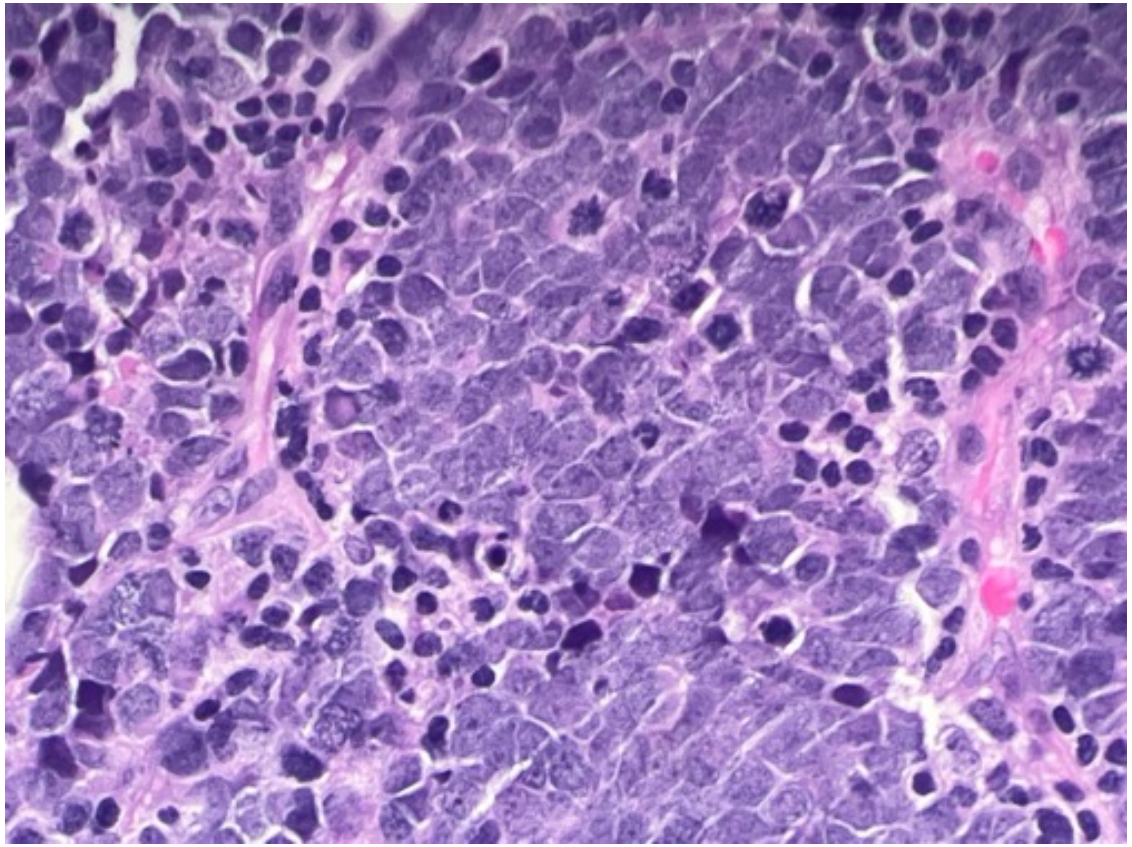


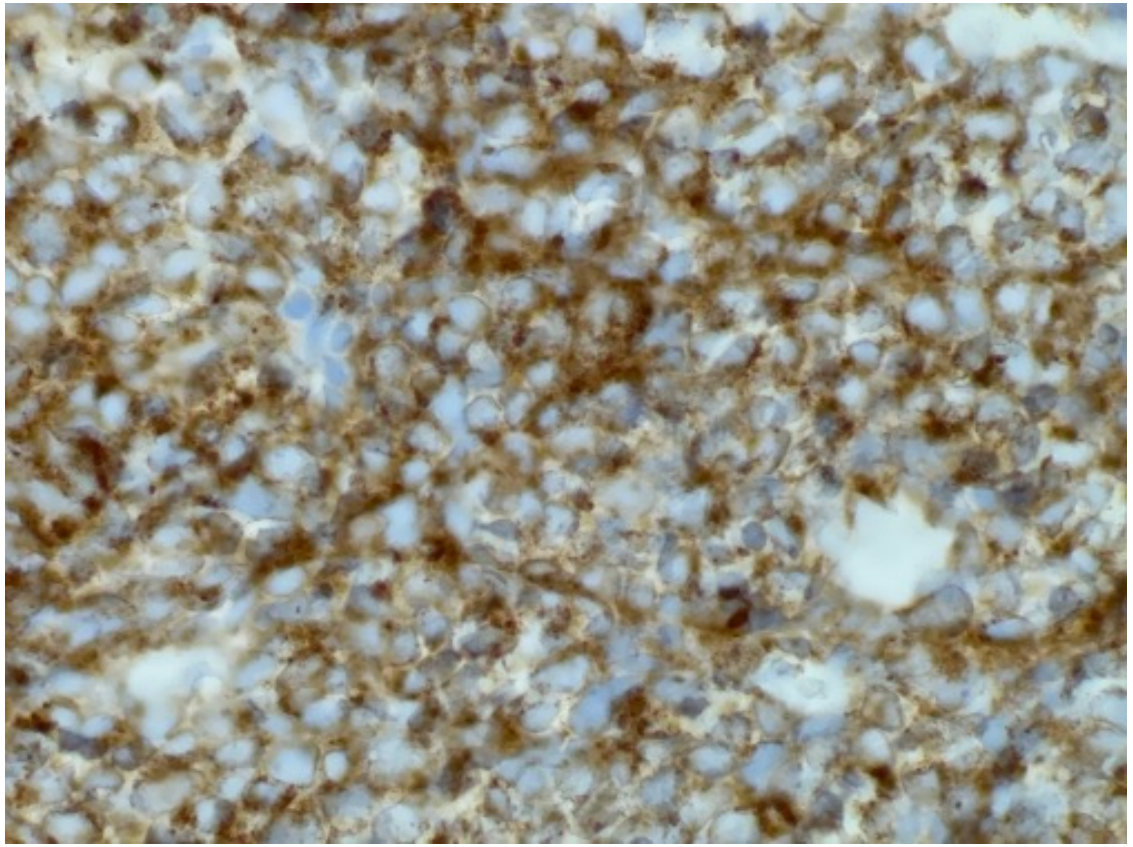

**Image 2:** Axial T1 weighted (a) images reveal circumferential mass isointense to cord causing moderate to severe stenosis. Axial T2 weighted (b) images demonstrate a soft tissue signal mass slightly hyperintense to the cord.

# Imaging Discussion

- No abnormality in the cervical or lumbar spine
- MRI thoracic spine:
  - **Sagittal T1**:
    - Soft tissue signal from T7 to T9 encasing the thecal sac
    - Moderate to severe spinal stenosis
    - No marrow edema or remodeling
  - **Sagittal T2:**
    - Mild hyperintensity of soft tissue mass
  - **Axial T1:**
    - Circumferential epidural soft tissue mass
    - Moderate to severe spinal stenosis
  - **Axial T2:**
    - Mild hyperintensity of soft tissue mass

# Histopathology





**<u>Image 3</u>:** High power field (a) reveals polygonal cells with numerous mitoses and a high nuclear/cytoplasmic ratio. Immunohistochemistry is positive for synaptophysin (b)

# Management

**Standard of care for MCC:**

- Surgery → Radiation therapy
- Immunotherapy
  - Checkpoint inhibitors targeting programmed cell death receptor (PD-1)

**Management for this patient:**

- T7-T8 hemilaminotomy
- Biopsy of friable grayish brown mass

# Outcome

The patient died 4 days after hemilaminotomy

# Take Home Points

- MCC is rare and aggressive
- Increasing incidence of MCC
  - Likely to continue rising due to aging population
- Metastatic disease is common at presentation
  - Most common site: locoregional nodes
  - Rare: spinal axis
- 6 documented cases of spinal metastatic disease
  - 5 cases: both osseous and epidural involvement
  - 1 case: solitary epidural involvement (as in this case)
- Radiologist’s role: detect regional and distant metastatic disease


*Died on September 1, 2023 (aged 76) of Merkel cell carcinoma*