

# **Lumbosacral Metastatic Extradural Merkel Cell Carcinoma Causing Nerve Root Compression**

## **—Case Report—**

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### **Abstract**

**A 63-year-old man presented with a rare metastatic Merkel cell carcinoma (MCC) involving the lumbosacral spine and causing nerve root compression. Magnetic resonance (MR) imaging revealed an extradural soft tissue mass at the L5-S1 levels. The tumor was subtotally removed and chemotherapy was administered, but he died of multiple metastases from the primary epigastric tumor. Lumbosacral metastatic epidural tumor can manifest as lumbar disc disease symptoms, but MR imaging can non-invasively and rapidly reveal the presence of spinal epidural tumor and any extension to the spinal canal. Extradural MCC metastasis in the lumbosacral area should be considered in the differential diagnosis of radicular symptoms caused by disc herniation.**

Key words: Merkel cell carcinoma, magnetic resonance imaging, lumbar disc disease

### **Introduction**

Merkel cell carcinoma (MCC), neuroendocrine trabecular carcinoma, is a rare aggressive skin cancer most frequently localized in the craniofacial region followed by the lower and upper extremities in the elderly.<sup>5,7,12)</sup> Distant metastases are often responsible for disease-related mortality.<sup>2,7,10,12,14)</sup> MCC has been managed with either surgery alone or surgery followed by radiation therapy and/or chemotherapy. We describe a case of Merkel cell tumor in the epigastric region associated with metastases to the lumbosacral spine and epidural space.

### **Case Report**

A 63-year-old man presented on March 31, 2000 with backache and left-sided sciatica persisting for one month. Neurological examination revealed positive straight leg raising sign on the left, mild weakness of dorsiflexion, hypesthesia in the left L-5 and S-1 dermatomes, diminution of the left ankle jerk, and no urinary or fecal incontinence. Radiography of the spine showed no abnormalities. Magnetic

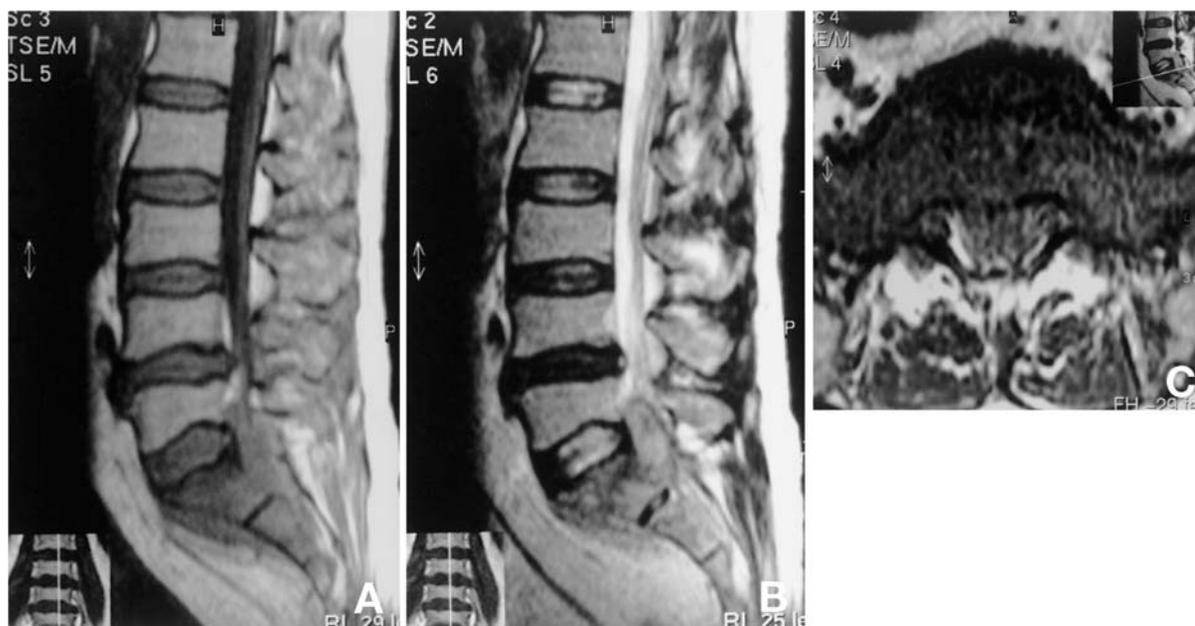
resonance (MR) imaging showed an epidural mass with osseous involvement at the L5-S1 levels, appearing as iso- to hypointense to the spinal cord on T<sub>1</sub>-weighted and T<sub>2</sub>-weighted images (Fig. 1).

L-5 laminectomy was performed and the tumor was resected subtotally. Histological examination identified MCC consisting of small cells with hyperchromatic nuclei and scanty cytoplasm (Fig. 2). Immunohistochemical staining of the tumor cells found strong positivity for neuron-specific enolase, but no reaction for cytokeratin, vimentin, and S-100 protein. Further examination found the primary lesion in the epigastric region.

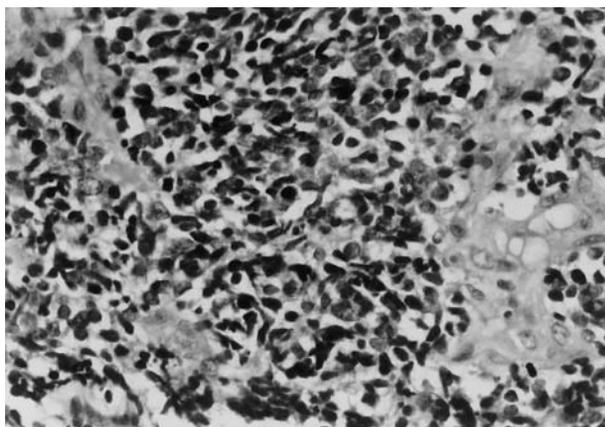
First-line polychemotherapy (cisplatin 80 mg/m<sup>2</sup>, doxorubicin 50 mg/m<sup>2</sup>, etoposide 300 mg/m<sup>2</sup>, and bleomycin 30 mg) was administered. The patient died of extensive distant metastases 2 months after the diagnosis.

### **Discussion**

MCC is considered to originate from cutaneous Merkel cells.<sup>3)</sup> Osseous involvement is usually located in the facial bones and cranium.<sup>8,9,15)</sup> Only three cases of metastatic MCC have involved the spine.<sup>3,9,12)</sup> Our patient presented with signs and symptoms that were highly suggestive of lumbosacral intervertebral disc herniation. He had back-



**Fig. 1** Sagittal T<sub>1</sub>-weighted (A) and T<sub>2</sub>-weighted (B), and axial T<sub>1</sub>-weighted (C) magnetic resonance images demonstrating an extradural soft tissue mass at the L5-S1 levels.



**Fig. 2** Photomicrograph showing sheets of tumor cells with lumped hyperchromatic nuclei and scanty cytoplasm. Conspicuous nucleoli are absent. HE stain,  $\times 250$ .

ache, radicular pain, paresis of dorsiflexion of the foot, and dermatomal sensory loss. MR imaging clearly demonstrated the metastatic lesion. More widespread use of MR imaging in patients with low back pain may find that metastatic MCC is more frequent than suspected. Treatment of the distant metastatic disease with chemotherapy resulted in only a short-term palliative response.

The course of MCC is often aggressive, despite

rare spontaneous regression, and distant metastases are associated with poor prognosis and death regardless of any therapy.<sup>2,10</sup> The optimal management of MCC has not been clearly established.<sup>4,13</sup> Chemotherapy should be considered in patients with advanced disease and those not thought to be candidates for surgery.<sup>1,14</sup> The type of initial therapy apparently has no effect on the survival rates for distant metastases.<sup>7</sup> Distant metastasis occurs in 20–50% of patients,<sup>13</sup> but neurological complications due to MCC are extremely rare.<sup>6,11</sup>

In conclusion, compression of spinal nerve root(s) by epidural masses due to metastatic MCC is a rare condition and should be considered in the differential diagnosis of lumbar disc herniation. MR imaging is essential to achieve the correct differential diagnosis.

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