

# Teaching NeuroImages: Parkinsonism Secondary to a Metastatic Lesion Involving the Substantia Nigra

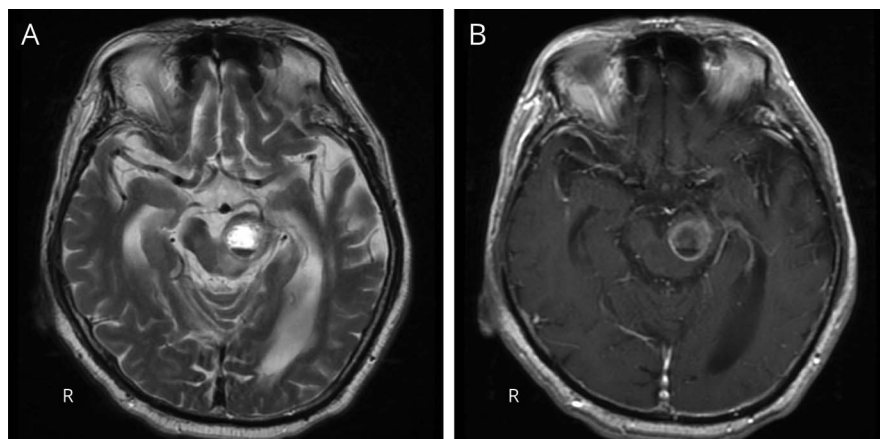
Kosei Hirata, MD, Takanori Yokota, MD, PhD, and Yoshiharu Miura, MD, PhD

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## Correspondence

Dr. Hirata  
k-hirata.nuro@tmd.ac.jp

## Figure Brain MRI Findings



(A) Axial T2-weighted and (B) T1-weighted images with gadolinium contrast show ring enhanced mesencephalic mass involving left substantia nigra.

A 74-year-old man with a 9-month history of treatment for metastatic small cell lung carcinoma presented with 3 months of gradual-onset small steps and stooped posture. His medical history was unremarkable except for pneumothorax in his 30s. Neurologic examination revealed bradykinesia, rigidity in the right extremities, stooped posture, and hyperreflexia in all extremities. Brain MRI showed a ring-enhanced lesion in the midbrain involving the left substantia nigra (figure), which was not evident on MRI 4 months earlier. Although he underwent whole-brain irradiation with a marked decrease in the lesion size, his parkinsonism did not remit. He was unresponsive to levodopa up to 300 mg/d. His parkinsonism did not worsen, and he died 4 months after diagnosis.

Although brain tumors at various locations are associated with parkinsonism, metastatic tumors contacting the substantia nigra comprise a rare but important cause of secondary parkinsonism.<sup>1,2</sup>

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## Disclosure

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org/N](https://www.neurology.org/N) for full disclosures.

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From the Department of Neurology (K.H., Y.M.), Tokyo Metropolitan Cancer and Infectious Diseases Center, Komagome Hospital; and Department of Neurology and Neurological Science (K.H., T.Y.), Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Japan.

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## Appendix Authors

Name	Location	Contribution
<b>Kosei Hirata, MD</b>	Tokyo Metropolitan Cancer and Infectious Diseases Center, Komagome Hospital, Japan	Drafted the manuscript for intellectual content, primary clinical care of the patient
<b>Takanori Yokota, MD, PhD</b>	Tokyo Medical and Dental University, Japan	Revised the manuscript for intellectual content
<b>Yoshiharu Miura, MD, PhD</b>	Tokyo Metropolitan Cancer and Infectious Diseases Center, Komagome Hospital, Japan	Revised the manuscript for intellectual content

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