Teaching-Neuroimages: Parkinsonism secondary to a metastatic lesion involving the substantia nigra

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Case summary

A 74-year-old man with a nine-month history of treatment for metastatic small cell lung carcinoma presented with three months of gradual-onset small steps and stooped posture. His past 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 four 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/day. His parkinsonism did not worsen, and he died four 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.1,2

Appendix 1: Authors

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
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Teaching Slides - http://links.lww.com/WNL/B267

References


Figure- Brain MRI findings
(A) Axial T2- and (B) T1-weighted images with gadolinium contrast show ring enhanced mesencephalic mass involving left substantia nigra.
(Legend: 19 words)
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