Teaching NeuroImage:

Open-ring imaging sign in a case of tumefactive cerebral demyelination

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Figure The abnormality within the right parieto-occipital lobe involving the corpus callosum with an open ring of enhancement abutting the gray matter (arrow)

(A, D) Noncontrast T1 images. (B, E) Contrast-enhanced T1 images. (C, F) FLAIR images demonstrating extensive splenium involvement.

A 70-year-old woman presented with confusion and hemianopia. A ring-enhancing lesion revealed on MRI (figure), thought to be suggestive of lymphoma or high-grade glioma, demonstrated demyelination on biopsy. Two further biopsies due to suspicion of malignancy both confirmed demyelination. Retrospectively, the enhancement pattern on the original MRI demonstrated an “open ring” previously described in large, demyelinating lesions and of assistance in distinguishing them from tumor.^{1,2} Typically the ring is crescentic, involving white matter, and its open sec-

tion verges on the gray matter of the cortex or basal ganglia.^{1,2} The sign is highly specific for demyelination.²

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Disclosure: The authors report no disclosures.

Neurology®

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Neurology 2008;71:e73

DOI 10.1212/01.wnl.0000336645.99240.a1

This information is current as of December 1, 2008

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