Bright red nuclei

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A 64-year-old woman presented with a subacute onset of diplopia, dysarthria, and ataxia. MRI revealed an enhancing lesion in the right red nucleus (figure, A). She became wheelchair dependent and mute. Several possibilities were considered including a primary CNS lymphoma (PCNSL), a demyelinating lesion, and sarcoidosis. Biopsy was considered high risk and empiric steroid treatment was commenced. However, deterioration continued. A mirror image lesion developed in the left red nucleus on subsequent imaging (figure, B). Evaluation for inflammatory conditions, infections, and malignancy was negative. Spinal fluid examination (including cytology) was normal except for a lymphocytosis (77 cells). MRI 16 weeks after onset demonstrated continued progression (figure, C). Brain biopsy of the right red nucleus revealed B-cell lymphoma. PCNSL usually enhances brightly and homoge-

Figure. (A) Three weeks after symptom onset, coronal T1 image post contrast reveals an enhancing lesion in the right red nucleus. (B) Six weeks later, an enhancing lesion in the left red nucleus has developed. (C) Sixteen weeks after onset, bilateral enhancing lesions continue to enlarge.

neously on MRI. In immunologically competent patients, it infrequently occurs in the brainstem (6% of cases).¹

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