FDG-PET of poststroke oculomotor repair

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A 35-year-old woman with congenital heart disease status post surgical repair presented in coma due to a top of the basilar syndrome. Neuro-ophthalmologic examination disclosed a dorsal midbrain syndrome. FDG-PET revealed minimal uptake of tracer in the extraocular muscles 1 week from stroke onset (figure 1), with a

dramatic increase in FDG uptake in the extraocular muscles noted at 1 month (figure 2). Concurrent intensification of FDG uptake in the extraocular muscles and bilateral parieto-occipital cortices correlated with improvement in her gaze paresis. Although extraocular muscle tracer uptake has been characterized as an artifact, this unique case illustrates poststroke oculomotor recovery.¹

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1. Law I, Svarer C, Rostrup E, Paulson OB. Parieto-occipital cortex activation during self-generated eye movements in the dark. *Brain* 1998;121: 2189–2200.

Figure 1. FDG-PET demonstration of minimal extraocular muscle tracer uptake at 1 week from stroke onset (A, axial; B, coronal; C, left parasagittal).

Figure 2. FDG-PET at 1 month from stroke onset (A, axial; B, coronal; C, left parasagittal) demonstrates marked extraocular muscle tracer uptake and increased uptake in the parieto-occipital cortex.