

## MAJOR DEPRESSION AFTER LEFT POSTERIOR GLOBUS PALLIDUS LESIONS

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Edward C. Lauterbach, M.D., Joseph G. Jackson, M.D., \*Ami N. Wilson, B.A., G.E. Alan Dever, Ph.D., and Lalan D. Kirsh, M.D. Departments of \*Psychiatry, radiology, and IFamily and Community Medicine (Clinical Epidemiology and Biostatistics), Mercer University School of Medicine, Macon, Georgia, U.S.A.

**Summary:** We studied subjects with focal subcortical lesions (SCLS) and investigated the frequency of pallidal lesions in secondary major depression (2'MD) presenting after but not before lesion onset. Forty-five subjects were selected for focal subcortical lesions (SCLS) from 10,000 hospital magnetic resonance imaging (MRI) films. SCLs were ascertained by neuroradiologic criteria. Major depression was ascertained by DSM-III, -III-R, and -IV criteria. We compared subjects with 2'MD to SCL subjects lacking life histories of mood disorders and investigated the lesion distribution among pallidal subregions evident on MRI. We further tested an association between pallidal lesions and 2'MD. Pallidal lesions were present in eight (89%) of nine subjects with 2'MD and 13 (59%) of 22 controls. Left posterior pallidal lesions occurred in four (44%) of the nine subjects with 2'MD and two (9%) of the 22 controls (one-tailed Fisher's exact test  $p = 0.043$ ). Demographic and other factors did not differ between subjects with 2'MD and controls (using Fisher's exact test or Mann Whitney U test as statistically appropriate). These data, of small sample size and requiring confirmation, suggest the possibility that abnormal pallidal function may contribute to depressive pathophysiology, perhaps by influencing basal gangliathalamocortical mood circuits. Left-lateralized circuits in the posterior pallidum may be of particular relevance. The left pallidal association is compatible with previous findings in poststroke depression. Patients with left pallidal lesions may deserve close monitoring for 2'MD after subcortical lesions. **Key Words:** Pallidal lesions, Major depression.

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