White matter lesions and depression

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Cerebral white matter lesions and depressive symptoms in elderly adults
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Background: Cerebral white matter lesions representing vascular disease have been implicated as an important etiologic factor in late-onset depression.

Aim: To determine the relationship between cerebral white matter lesions and depression in the general population, which has previously not been known.

Methods: A community-based sample of nondemented elderly Dutch residents were assessed for the presence and severity (maximal diameter) of subcortical and periventricular white matter lesions by MRI, and the presence (using the CES-D Scale) or history of depression.

Main Findings: Those with severe white matter lesions were 3 to 5 times more likely to have depressive symptoms compared to those with only mild or no white matter lesions. Persons with severe subcortical but not periventricular white matter lesions are more likely to have had a history of depression with onset after age 60 compared to those with only mild or no white matter lesions.

Conclusions: The severity of white matter lesions on MRI is related to the presence of depressive symptoms and to a history of late-onset depression.

Limitations: It is possible that the relationship between white matter lesions and depressed symptoms is due to other factors such as cognitive decline, ventricular enlargement, stroke, or cortical atrophy. However, the investigators found the relationship between white matter lesions and depressive symptoms did not
change when they controlled for these possible confounding factors. Another possible explanation for the association would have been that depression increases the risk of vascular disease (rather than the other way around). If this were the case, one would have expected a stronger association with early-onset rather than late-onset depression.

Impact on Internal Medicine: This study adds to our growing awareness that vascular diseases, including coronary artery disease, stroke and other cerebral vascular disease, increase the risk for development of depression. Physicians should be especially attentive in screening their elderly patients with evidence of vascular disease for depression.