The vascular Depression Hypothesis: 22 years Later

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Introduction:

In 1997, Alexopoulos and co-workers introduced the concept of “vascular depression” (VD) as a subtype of geriatric mood disorder. ^{1/2}This disorder is characterised by a late age at onset or change in the course of early onset depressive symptoms, persistent symptoms, association with vascular disease or vascular risk factors and diffuse or multifocal cerebrovascular lesions ²

The vascular depression hypothesis postulated that cerebrovascular disease can predispose, precipitate, or perpetuate a depressive syndrome in older adults. ^{1/3}

The vascular depression hypothesis originated from the following findings:

- 1) patients with early-onset depression (EOD) when compared with patients with late-onset depression (LOD) had lower severity and lower rates of hyperintensities on T2-weighted brain MRI;
- 2) patients with LOD and MRI hyperintensities demonstrated greater neuropsychological impairment than patients with EOD
- 3) greater severity and higher rates of MRI hyperintensities were associated with poor response to treatment. ^{4/5/6}

Objectives:

- 1- To make a review of the literature of the vascular depression hypothesis using a number of important scientific articles.
- 2- To highlight a range of critical problems facing the vascular depression hypothesis.

Bibliography

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Methods:

Non-systematic review of the literature with selection of scientific articles published in the last 22 years (according to their scientific relevance), by searching the Pubmed and Medscape databases using the combination of MeSH descriptors. The following MeSH terms were used: vascular depression; late-onset depression; cerebrovascular disease; neuroimaging

Results :

Vascular disease and depression have a reciprocal relationship. There is evidence that vascular disease promotes development of depression. ^{1/7} Patients with hypertension, coronary artery disease, myocardial infarction (MI), and vascular dementia often have high prevalence of depression. Although vascular disease increases the risk of depression, the opposite sequence is also true. Approximately 50% of patients with coronary heart disease and major depression have had one or more prior episodes of major depression. ⁷

However, the hypothesis can generate studies of the epidemiology, clinical presentation, outcomes, pathogenesis, and treatment of a large subgroup of geriatric patients with depression. ¹ Throughout the history of the vascular depression hypothesis, a number of researchers have proposed different diagnostic criteria. Lack of consensus on criteria makes it difficult to interpret discrepant findings across studies. ⁵

Conclusions:

Vascular depression hypothesis has served the field well in providing research direction. There is empirical evidence that cerebrovascular disease confers vulnerability to a variety of syndromes, including depression, other mood syndromes, and psychosis, but also cognitive impairment and peripheral neurologic signs. ³