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Depression and anxiety are associated with cardiac events in patients with stable CAD

Studies have suggested a relationship between depression and coronary artery disease (CAD). In an epidemiological study¹ carried out in patients with a history of myocardial infarction, Mayou et al reported that the prevalence of depression or anxiety in this population was 15%.

In the Mayou study,¹ the occurrence of anxiety and depression was associated with a worse quality of life, reduced daily activity, and a higher incidence of episodes of angina pectoris. Mortality risk, however, did not differ between patients with and without anxiety and depression. Both anxiety and depression have been shown to trigger pathophysiological vascular and systemic responses that may lead to atherosclerosis. Most of the work to date, however, relates to the role of depression, with little work focusing on anxiety disorders and their relationship to cardiovascular disease. A recent study² has addressed the question as to whether anxiety can have a pathogenic role in atherogenesis and/or lead to acute cardiovascular events in patients with atherosclerosis.

Anxiety and cardiovascular events: recent findings

The Epidemiological Study of Acute Coronary Syndromes and the Pathophysiology of Emotions assessed the relationship among the diagnoses of depression and anxiety in patients with stable CAD, self-reported symptoms of anxiety and depression assessed approximately 2 months after hospital discharge for acute coronary syndromes, and the risk of subsequent cardiovascular events during a 2-year follow up. The study also investigated whether the combination of anxiety and depression might increase the risk for acute coronary events over and above that determined by that observed with either diagnosis alone.

This was a relatively large study, with 804 patients with stable CAD (649 men) assessed at 2 months after hospital discharge with the Beck Depression Inventory II (BDI-II), the anxiety subscale of the Hospital Anxiety and Depression Scale (HADS-A), and the Structured Clinical Interview for *DSM-IV*, masked to the self-reports of symptoms. Patients were followed up at 2 years, during which period the investigators recorded the occurrence of the following: cardiac death, cardiac arrest, myocardial infarction, or urgent myocardial revascularization. Of the 804 patients recruited into the study, 57 (7%) had depression,

43 (5%) anxiety, and 11 (1%) had both conditions. 220 (27%) patients had high values for depressive symptoms ie, BDI-II scores of 14 or higher, and 333 (41%) had high HADS-A scores of 8 or greater. 115 patients had serious cardiovascular events during the 2 years of follow up, with nonfatal myocardial infarctions being the most common of these events.

The study results indicate that both anxiety and depression independently predicted the occurrence of major cardiac events during the 2-year follow-up, and were associated with a twofold increase in the risk of cardiovascular events, even after adjusting for possible confounders. Of interest, patients suffering with both conditions (anxiety and depression), and those with high scores for both elevated symptoms of anxiety and depression did not show an increased risk for subsequent cardiovascular events, compared with subjects affected by anxiety or depression only.

Conclusions

The results of this study suggest that CAD patients with either depression or anxiety disorders are at an increased risk of acute cardiovascular events and should be monitored closely. The study does not tell us however, whether effective treatment of these conditions will translate into better cardiovascular outcomes. Irrespective of this limitation, however, the observations reported by the Epidemiological Study of Acute Coronary Syndromes and the Pathophysiology of Emotions, suggest that physicians should implement strict risk factor modification in individuals with clinical presentations, as reported by the study. Moreover, albeit not yet proven by ad hoc studies, in addition to aggressive cardiovascular management of cardiovascular risk factors and lifestyle modifications, these patients may require specialist psychiatric assessment and appropriate treatment of their psychological condition.

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References : 1. Mayou RA et al. *Psychosom Med.* 2000;62:212-219. 2. Frasure-Smith N et al. *Arch Gen Psychiatry.* 2008;65:62-71.

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