Depression and cardiovascular disease: association, causation, and the right thing to do

The link between depression and cardiovascular disease is well known and is associated with poorer overall outcomes (1). Unfortunately, whether depression is a causative agent, a byproduct of the cardiovascular disease state, or a confounding comorbidity in this scenario has not been clearly delineated (2). For example, depression has been shown to be an independent risk factor for death after acute myocardial infarction, but does not have a significant effect on mortality until nearly 12 months after the acute event, and this does not seem related to recurrent cardiovascular events (3, 4).

Given the strong association, there is interest in screening for depression in this high-risk cohort. Unfortunately, the tools used for screening these populations are flawed and may be confounded by the cardiac condition for which the patients are being treated (5). In addition, while the association is strong, treating depression in the setting of cardiovascular disease does not improve mortality, although it does improve well-being (6).

Davis et al attempted an ambitious study to try to validate a newer screening tool that may be more useful in the evaluation of cardiovascular patients for depression (7). Given the high prevalence of depression and depressive symptoms in this cohort of patients, it would make sense that screening would have a high yield and would allow meaningful intervention from a psychosocial perspective. They were not able to come to any concrete conclusions, mostly due to flaws in the design of the study.

Despite the flaws in the study, several interesting pieces of information emerged. In the retrospective portion of the study, almost 1 in 20 patients revealed signs of hopelessness or suicidality in the routine intake questionnaire. Given the high volume of patients passing through our hospital, this is a large number of people in whom there is another potentially life-threatening (or certainly quality-of-life impacting) concern that we can positively impact.

The investigators also learned several practical lessons about designing and carrying out research protocols. These included issues related to allocating appropriate manpower for a trial and limiting the complexity of the study so that it allows for focused endpoints. While they were unable to prove the validity of their hypothesis, along the way they were able to positively impact several patients, and based on this study they are planning another research protocol that has a higher chance of coming to more definitive conclusions.

In conclusion, while the trial itself did not ultimately achieve its original goal, we can appreciate three vital things. First, we acknowledge that in cardiology, as with the practice of medicine in general, we only have two opportunities: to make people live longer and to make them feel better. While the final word on screening for depression in cardiovascular patients may be that we only have the opportunity for the latter, this does not make it a less worthwhile pursuit. Second, while it is far less common for negative trials to be published than for trials where there is a statistically significant outcome, these trials may be very educational. The importance of these trials is often underestimated, as without them we are doomed to repeat similar mistakes (8). Lastly, we recognize the compassionate people who work in a hospital system that devotes time and resources to answer questions about the most vulnerable of our patients, if only in order to help them *feel* better. This is commendable and should be encouraged.

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