

World Journal of *Cardiology*

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World Journal of Cardiology is now indexed in Emerging Sources Citation Index (Web of Science), PubMed, and PubMed Central.

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NAME OF JOURNAL
World Journal of Cardiology

ISSN
 ISSN 1949-8462 (online)

LAUNCH DATE
 December 31, 2009

FREQUENCY
 Monthly

EDITORIAL BOARD MEMBERS
 All editorial board members resources online at <http://www.wjgnet.com/1949-8462/editorialboard.htm>

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World Journal of Cardiology
 Baishideng Publishing Group Inc

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PUBLICATION DATE
 June 26, 2018

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More to the picture of the psychological impact of endocarditis and thoracic aortic pathology

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Author contributions: Firstenberg MS coordinated the writing of the manuscript, reviewed and edited all revisions, and approved the final submission; Ginesi M designed the response and wrote the majority of the manuscript.

Conflict-of-interest statement: No potential conflicts of interest relevant to this article were reported.

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Manuscript source: Invited manuscript

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Received: February 24, 2018

Peer-review started: February 25, 2018

First decision: March 7, 2018

Revised: March 15, 2018

Accepted: April 1, 2018

Article in press: April 1, 2018

Published online: June 26, 2018

Abstract

Over the years there has been substantial advanced

in the diagnosis and surgical management of complex thoracic aortic disease and complex endocarditis. As these therapies are being offered to a growing segment of patients—and more and more patients are felt to potentially benefit from such therapies, the long-term consequences of these interventions is sometimes poorly understood. While traditional medical complications, such as stroke, renal failure, respiratory failure, and even death are often the focus of outcomes studies, little is known on the impact of these diseases and therapies on mental health. This commentary emphasizes the importance of better understanding the psychologic impact of endocarditis and thoracic aortic pathology as reviewed by Dr. Bagnasco.

Key words: Endocarditis; Thoracic aorta; Mental health; Anxiety; Depression

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Core tip: Dr. Bagnasco's review emphasizes the importance of considering the psychologic implications of the diagnosis and therapies associated with thoracic aortic pathology and endocarditis.

Ginesi M, Firstenberg MS. More to the picture of the psychological impact of endocarditis and thoracic aortic pathology. *World J Cardiol* 2018; 10(6): 38-40 Available from: URL: <http://www.wjgnet.com/1949-8462/full/v10/i6/38.htm> DOI: <http://dx.doi.org/10.4330/wjc.v10.i6.38>

COMMENTARY ON HOT TOPICS

The article, "Infective endocarditis and thoracic aortic disease: a review on forgotten psychological issues" by Marianna Bagnasco provides a very good overview of the studies related to the psychological and quality of life outcomes related to infective endocarditis and

thoracic aortic disease^[1]. However there are a few points that could be addressed when interpreting this dataset. First, while most of these papers use the same or similar validated methods of comparing post-operative quality of life or anxiety and depression, these measures compare patients to age and sex matched general population controls, rather than the patient's own pre-operative condition. Patients may have a significant amount of anxiety regarding the diagnosis of thoracic aortic aneurysm that might be significantly lessened after surgery, even if still elevated compared to the general population. Likewise, a patient who already has a prosthetic valve - or other baseline comorbidities or social issues (such as intravenous substance abuse) - who develops endocarditis, might already have a diminished quality of life that is further diminished by contracting infective endocarditis. But, the extent to which their baseline quality of life is diminished is difficult to tell if not compared to their pre-operative condition. This is of significant concern when evaluating these patients and managing this population as none of these studies compares patients' quality of life outcomes to those prior to surgery, nor to matched controls that did not undergo surgery - all of which data that might be inherently impossible to ever accurately obtain. The only study that even hints at this is by Verhagen *et al*^[2], in which patients' employment and symptom status prior to infective endocarditis treatment is considered.

With the thoracic aortic disease group, this is less of a concern because the majority of those studies conclude that the risk to quality of life is acceptable given that post-operative scores are within normal ranges or only slightly reduced from the general population. Assuming that not proceeding with surgery incurs a significant health risk, this is determined to be an acceptable risk. When comparing anxiety and depression however, it would be helpful to know where these patients were pre-operatively - again data that might be impossible to ever adequately determine given the nature of aortic pathologies. The infective endocarditis group is more problematic given that all the studies except one demonstrate a decreased quality of life that may not have been present pre-operatively given the acuity of disease. However, none of these studies provide guidance on how this problem should be approached given that proceeding with surgery decreases mortality. Clearly, there are problems that need further studies in this area.

Another point to take away from this review is that the type of thoracic aortic operation does not greatly influence quality of life or anxiety/depression outcomes, although, there are some notable exceptions. In general, Dr. Bagnasco emphasizes that the type of procedure used for thoracic repair, urgency or emergency, open or endovascular, biologic or mechanical repair had no significant effect on quality of life outcomes. The only exception is in the context of

valve surgery where Aicher and colleagues indicate that pulmonary allografts and aortic valve repair had better quality of life outcomes than mechanical valve replacement, though no difference was seen in anxiety or depression^[3]. The other exceptions were the two studies by Immer *et al*^[4,5], that indicated that continuous cerebral perfusion and selective antegrade cerebral perfusion were associated with improved quality of life when compared to deep hypothermic circulatory arrest with pentothal alone. In these two cases the results are not surprising, the interventions were neuroprotective and thus the patients had less neurologic morbidity and improved quality of life.

Lastly, this review suggests what further directions can be taken to more thoroughly explore the effect these diseases have on quality of life. While the authors of this review do hint that increased anxiety and depression may inhibit or complicate recovery, none of these studies actually quantify whether patients with increased anxiety or depression have increased complications or prolonged post-operative recoveries. Also, as previously mentioned, these studies quantify risk to quality of life or increased anxiety and depression, but few of them suggest what to do regarding the management of the anxiety and depression when it arises. Many clinicians find treating a patient with a multidisciplinary team including a psychologist or counselor to improve patient outcomes, for example in a situation where a new diagnosis or a traumatic event changes a patient's course significantly. Further studies might include comparing outcomes of patients treated using multidisciplinary team - including psychological services. Whether improved patient outcomes and a decreased long-term burden of altered quality of life, anxiety, and depression can be demonstrated should clearly be a focus of further research. Without a doubt, we must do better in understanding the psychological factors that impact outcomes once the patient leaves the hospital.

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