MAC: “Mitral annular calcification” or a “modern approach to concept learning” in surgery

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Disclosures: Authors have nothing to disclose with regard to commercial support.

Received for publication June 15, 2018; revisions received June 15, 2018; accepted for publication June 18, 2018; available ahead of print Aug 11, 2018.

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J Thorac Cardiovasc Surg 2019;157:568-9

0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2018.06.058>

Twitter accounts of AATS (@AATSHQ), JTCVS (@AATSJournal), and authors S.K. and H.T.

In this issue of the *Journal*, Bedeir and colleagues¹ offer a thoughtful and thorough review of one of the more daunting issues faced by cardiac surgeons: how to deal with severe mitral annular calcification (MAC). Successful surgical management of severe MAC has been described, involving a spectrum of approaches ranging from no annular débridement,² through conservative decalcification,³ to aggressive débridement and complete reconstruction of the mitral annulus.^{4,5} Whereas several previous reviews offer discussion of pathophysiology, medical management, and established open surgical techniques for management of MAC, Bedeir and colleagues¹ synthesize available knowledge and build on it by discussing an emerging and potentially game-changing technique—the use of expandable transcatheter heart valves. Although a totally percutaneous approach requires further accumulation of clinical experience and data, practical surgical interest in 2018 may lie mainly in the hybrid approach involving transatrial deployment of transcatheter heart valves under direct vision during a sternotomy. This procedure significantly facilitates this otherwise complicated operation,⁶⁻⁸ because it does not require extensive decalcification and débridement of the annulus while allowing the surgeon to maintain the control for precise sizing, positioning, and evaluation of the valve anchoring. In addition, there is an opportunity for placement of a felt skirt and pledgeted sutures to reduce paravalvular prosthetic leak and anchor the valve partially, as well as for resection of the anterior mitral valve leaflet and even septal myectomy, thus allowing safe treatment of patients at high risk for left ventricular outflow tract obstruction or valve embolization.

Beyond the surgical concepts discussed, the article of Bedeir and colleagues¹ is also notable for the unique and innovative ways in which it introduces video references. We were impressed, and we encourage the readers to view them on YouTube and The American Association for Thoracic Surgery website. They provide excellent and

Central Message

The article provides an excellent review of knowledge and surgical tips on severe mitral annular calcification (MAC). It also notably introduces a modern approach to concept (MAC) learning in surgery.

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very interesting learning opportunities for surgeons and are the epitome of “seeing is believing.” We also invite the readers to visit the video of our case, referenced in this editorial.⁹ This form of reference allows the use of this long video, which shows more conservative approaches, including minimal débridement, needle placement through or around the MAC with needle placement in deep left ventricular muscle, and the use of a small biologic valve, as well as, perhaps more importantly, our struggle during the procedure.

Technology now allows anyone to gain easy and free access to information regarding highly specific topics. Although this can enhance, improve, and perhaps even transform the surgical education and learning, some of the recent events have highlighted the dangers of easy exposure of the public to controversial information from uncertain sources. For instance, although the cited video references in the article of Bedeir and colleagues¹ appear to be high-quality materials created by highly qualified people, their scientific quality and qualification might need to be considered differently from conventional peer-reviewed published materials.

For all these reasons, we believe that the role of the professional societies and journals as reliable and trustworthy sources will only become more important, and it is a pleasure to know that AATS (@AATSHQ) and JTCVS

(@AATSJournals) already have a social media (“SoMe”) presence!

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