COMENTÁRIO EDITORIAL

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Aortic valve prosthesis type and age - no news is good news?

The choice of the most appropriate type of aortic valve in patients aged 50-70 years old is still an ongoing debate, despite being a very well-known problem that exists in the cardiothoracic and cardiology community. All of us in the field have debated with ourselves, with colleagues and with patients the best choice of prosthesis type, of anti-coagulation regime, and of expected short and long-term results with both options.

Recently, the patients´ choice has been considered of paramount importance, and rightly so. Greater access to medical information, patient generated opinions and widespread online testimonies and experiences, coupled with heightened visibility of aortic stenosis as a fatal disease, non-separable from the arrival of TAVI and of the novel anti-coagulants, have significantly added to the discussion. How, then, to decide what´s best in patients with aortic valve disease with 50-70 years old?

In this number of Revista Portuguesa de Cirurgia Cardíaca, Torácica e Vascular, Rocha et al try to shed some light into this darkened corner of knowledge in Cardiac Surgery and Cardiology. The authors have performed a retrospective study which compared short-term clinical and echocardiographic results, and long-term survival of all patients receiving an aortic valve (bioprosthesis vs. mechanical valve) in 2012 in their Department. Even though the two populations (biological vs. mechanical) were not identical, after weeding out confounders, the end results showed that short term clinical and echocardiographic results differed only in a slightly greater LV remodeling at 3 months for bioprosthesis, with other clinical and echocardiographic results (including gradients, patient-prosthesis mismatch, ICU end-points, etc.) similar. In the long-term, mechanical valves shown a statistical non-significant trend for better survival and freedom from reoperation. Unfortunately, the small overall number of patients (n=193) did not allow for definitive conclusions.

A few points should be noted, however. This study reflects surgery and overall quality of care offered 8 years ago, and significant changes have entered the field of Cardiac Surgery and Cardiology since then. Isolated aortic valve reoperations have turned into a completely routine procedure except in endocarditis cases, TAVI has become widespread, and valve-in-valve TAVI (ViV), while eschewed by many surgeons, has been accumulating evidence as a safe and effective procedure, even though most evidence comes from the ViV registries and randomized controlled trials in this regard are non-existent. But if some surgeons argue contemporary ViV results facilitate the decision to place a biological valve in younger patients, cardiologists, on the other hand, argue that if a repeat procedure is inevitable in the future, maybe we should start with the "safest" less invasive procedure, which also gives the patients the larger effective orifice area to begin with.

In fact, many interventional cardiologists argue for starting with a TAVI, then a biological prosthesis, and if this surgical valve undergoes structural valve deterioration, then a ViV.

The other solution is to place a modern mechanical valve, and avoid the growing LVOT obstruction that will inevitably develop with the staged TAVI/bioprosthesis/ViV option - a "definitive solution", since neither mechanical valves nor TAVI´s are free from endocarditis or dysfunction.

And what should we expect from modern mechanical valves? New models, like the *Onyx* valve, and the *Sorin Slimline*, which entered the market a few years ago, allow for lower INR targets, with very good hemodynamic results. These valves, while for the moment still mandating vitamin K antagonists, do change a little bit the landscape of anti-coagulation related bleeding and thrombosis.

What sense then, to make of current knowledge, and of the added data that Rocha et al´s paper brings? It is difficult to crystalize in a blanket statement a definitive answer. Isolated clinical characteristics (such as inability to appropriately take anticoagulation), are still paramount in a decision. We would all like for more definitive data on this problem. But lacking this data, perhaps the best path is really to listen to the patient. While we wait for definitive data regarding modern developments (newest mechanical valves, ViV results, contemporary reoperation results) we can keep saying to most of these patients that results are similar with both types of prosthesis, and they should choose according to their own life and ability to deal with each type of prosthesis characteristics. This paper reinforces current attitudes regarding medical choices - the patient is at the center.

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