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EDITORIAL COMMENT

Surgery for symptomatic aortic stenosis in the elderly: Still an excellent option

Cirurgia na estenose aórtica sintomática em idosos: ainda uma excelente opção

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As a result of the aging of populations, aortic stenosis (AS) is rapidly turning into the cardiac epidemic of the 21st century, with an estimated incidence of about 10% in patients over 80 years of age.[1] This potentially lethal condition is still mainly treated by surgery, and patients' general condition, both physical and mental, after the operation is perceived as being at least as important as survival, especially in elderly patients.

In a paper published in this issue of the *Journal*,[2] Bento et al. of the surgical group at Santa Marta Hospital in Lisbon set out to determine the impact of surgical aortic valve replacement (SAVR) on quality of life in octogenarians. In a retrospective analysis of 163 octogenarians (mean age 83 years) who underwent isolated SAVR for symptomatic severe AS between 2011 and 2015, quality of life was assessed by applying the Medical Outcomes Study Short Form (SF-36) questionnaire repeatedly up to 12 months after surgery. The authors came to the conclusion that SAVR improved the physical and mental health status of octogenarians with severe AS, and that this improvement was evident at three months and consistent at six and 12 months. Furthermore, it was observed in all eight domains of the questionnaire (physical function and performance, body pain, general and mental health, social functioning, emotional performance and vitality). The SF-36 survey had previously been validated for the Portuguese population.

As could intuitively have been expected, the main hypothesis of the study was thus confirmed. Few studies had previously been conducted in this age group, and none in the Portuguese population, but the results of the Santa Marta study confirm the findings of others. This is important, as some surveys have shown that the Portuguese have different perceptions of their health status from those of most other European peoples. In a recent survey, only 43% of Portuguese people aged 16 years and over perceived their health status as good or very good, well below the 65% average of the 28 European Union member states, and lower still than the 75% of people in Iceland, Norway and Switzerland, for example.[3]

Hence, the results of the current study are highly encouraging. However, it should be borne in mind that the population involved was relatively small. Only 81 of the 163 patients (49.7%) were eligible for the analysis. Nineteen patients (12% of surgical survivors) had died one year after surgery and 58 failed to complete the questionnaire at one or more of the time points, a consequence of the retrospective nature of the study. Naturally, this considerably weakens its conclusions.

In a much larger cohort of 2005 patients in Rennes, France, Langanay et al.[4] reported functional improvement in 90% of cases and a median survival of 7.1 years. Furthermore, Salsano et al.[5] reported that expectation and quality of life after aortic valve replacement, even in patients over 85 years of age, match those of the contemporary general

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population. However, quality of life may be impaired after SAVR with stented bioprostheses in the presence of patient-prosthesis mismatch (PPM), although only if it is severe.[6,7] Unfortunately, there is no information on this point in the paper by Bento et al.

Nevertheless, their study revealed other important findings, which were pointed out by the authors. Perioperative mortality (3.1%) and morbidity, including stroke (1.2%) and pacemaker implantation (1.2%), were low, which is even more remarkable considering that the mean logistic EuroSCORE in the sample was 10.7±5.1% (although these days the use of this score is questionable). Even lower mortality has been reported,[8] and the authors acknowledge that it has decreased in recent times, in their experience as in others'.

It is thus clear that in-hospital mortality and morbidity associated with SAVR in the elderly patient with AS are nowadays low. Hence, age alone is not an acceptable reason to deny these patients conventional surgery, which remains the gold standard treatment for AS, and only a relatively small proportion of patients are in fact inoperable or too high risk. To further improve outcomes (for which there is certainly scope), surgeons should strive to identify modifiable predictors of perioperative mortality in SAVR.[9]

This is another important point to add to the ongoing discussion, in Portugal as elsewhere, about extending the indication for transcatheter aortic valve implantation (TAVI) to all elderly patients, and to more younger individuals. Such indications have often been justified by less good results of surgery in the elderly reported in non-contemporaneous series, and have been partially included in the most recent guidelines, in my view in a premature and unjustified manner, and applied to the extreme in some parts of the world. For example, we are told that in Germany, patients over 70 years of age are now rarely referred or accepted for surgery, but instead go directly to TAVI. I am unaware of any study that has demonstrated the long-term superiority (even non-inferiority) of TAVI over surgery in such patients, especially concerning bioprosthetic valve durability. Reports of early failure of these valves are not uncommon.[10,11] It is, however, important to recognize that similar improvement of quality of life has been demonstrated after TAVI.[12]

Naturally, in less economically-developed countries such as Portugal, cost constraints have helped to dampen the enthusiasm for TAVI.[13] I do not question that a percutaneous approach has some advantages, including the better hemodynamic properties of the smaller valves, and even accept that, in the future, it may become the procedure of choice for a wider range of patients. Nonetheless, until then, the medical fraternity, patients, and society in general can rest assured that SAVR remains an excellent option in the treatment of patients with severe symptomatic AS, with the added advantage of the proven long-term durability of the bioprosthetic valves used in surgery, especially in the elderly.

Still, there are other alternatives. Recently, Shrestha et al.[14] in Hanover reported the use of rapid-deployment sutureless valves in octogenarians, with 0% hospital mortality or stroke. These valves were developed partly as a surgical response to TAVI, with comparable hemodynamic properties to percutaneous valves (significant PPM is extremely rare with sutureless valves) and an expected durability similar to that of conventional valves. They may thus be particularly useful in these patients.

Evidently, the future is not yet here!

Conflicts of interest

The author has no conflicts of interest to declare.

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