

Transcatheter aortic valve implantation in nonagenarians – old...but not obsolete!



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Transcatheter aortic valve implantation (TAVI) is an incomparable success story in modern cardiovascular medicine and has recently changed the management of severe aortic stenosis (AS) to a transcatheter approach for all patients, regardless of surgical risk. However, very elderly patients have been underrepresented in most randomised studies, although they will represent an ever-expanding group. Because this disease is linked to ageing and the prevalence will only increase with growing life expectancy, it is important to consider them as well.

With the recently published low-risk TAVI trials, we have learned that low surgical risk does not necessarily mean only younger patients^{1,2}. At the other end of the spectrum, however, people in the ninth decade of their lives have already surpassed the limits of their life expectancy and are generally considered very high risk or inoperable. Chronological age alone should not deprive patients of treatment - it is the physiological age that should determine a patient's candidacy for treatment of aortic valve stenosis. The aim of TAVI in this age group is primarily to make the patient feel better and to increase their quality of life but not necessarily to help them to live longer^{3,4}.

In a recent study, Deharo et al⁵ identified 71,095 patients older than 90 years with severe aortic stenosis from the French administrative hospital discharge database, independently of whether they underwent TAVI or surgical treatment or were just managed conservatively.

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Within the nonagenarians suffering from AS, 5,469 patients who were treated with TAVI had a lower risk of cardiovascular death as well as rehospitalisation for heart failure symptoms than the propensity score-matched AS patients who were treated medically. One major limitation of this study is that the patients undergoing TAVI at this age were often highly selected: in comparison with younger patients, cardiovascular risk factors as well as a history of medical disease were less often reported in nonagenarians undergoing TAVI. However, atrial fibrillation and a history of heart failure were more frequently reported in this group. Not surprisingly, the risk of all-cause death during follow-up was higher in nonagenarians than in younger patients treated with TAVI. The authors can be congratulated on this important, careful, and well-conducted analysis.

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This study tries to answer the ultimate question: does TAVI have a life-extending effect in nonagenarians compared to a strategy of conservative, medical treatment? Is the procedure worth the effort for the patient?

There is always the real possibility that TAVI may be clinically futile for patients who have a multitude of comorbidities and extreme frailty, for whom a transition to palliative care might be prudent. Selecting nonagenarian patients with a low comorbidity index and no extreme frailty, adopting a minimalistic approach, and paying attention to vascular access haemostasis may provide the elements that lead to a successful, desirable, and hopefully cost-effective outcome. Finally, quality-of-life studies are direly needed and eagerly awaited in this patient subpopulation in order to provide guidance on the patient selection process^{3,4}.

TAVI is associated with acceptable long-term outcomes in nonagenarians and therefore may be considered the standard of care for AS treatment. Better identification of TAVI candidates within the nonagenarian population is critical to improve outcomes further. However, age alone should not be a discriminatory factor when screening elderly patients with AS, since they are old...but not obsolete!

Conflict of interest statement

E. Grube is a proctor for Medtronic and Boston Scientific and has received speaker honoraria from Medtronic and Boston Scientific.

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