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LETTER TO THE EDITOR

Trans-Apical Trans-Catheter Aortic Valve Implantation: The Berlin Experience

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In the latest edition of Scripta Medica, *D'Ancona et al* gave a comprehensive review of trans-apical trans-catheter aortic valve implantation (TAVI). Their impressive results obtained within a short period of time involved a large cohort of patients.[1] The German experience with this new technology differs from most other centres world wide in that there have been no limitations of procedural funding and patient choice. Consequently, over 30% of all aortic valve interventions performed use TAVI technology.

For any unit setting up a TAVI program, the main point is the need for a multi-disciplinary heart team to facilitate optimal patient selection. This is key to achieving successful outcomes for both the short and longer terms. It is the responsibility of this heart team to determine an individual patient's risk from previously identified variables independently associated with mortality and poor treatment response,[2] as well to oversee a systematic anatomical work up from access site to implantation site.

What does TAVI offer over surgical AVR? There is no doubt that, in the majority of cases, surgical AVR is a successful procedure supported by robust long-term follow-up data. However, the less invasive TAVI offers a number of advantages, not the least of which is procedural recovery within a matter of days, often with immediate symptomatic improvement. Indeed, the two year PARTNER outcome follow-up data comparing TAVI with surgical AVR continues to show the benefits of TAVI.[3]

What does the future hold for TAVI? We anticipate further development with regard to patient selection in which imaging modality affords optimal anatomical assessment of the aortic valve complex and peripheral vasculature. Technology will continue to develop the minimally invasive approach, which is the biggest advantage of TAVI over surgical AVR. Consequently, a 'trans-apical approach may be used less frequently than retrograde trans-femoral access in all but the minority of patients. In patients where femoral access is borderline, use of other access sites (axillary, subclavian and direct aortic [trans-aortic]) will become routine. Delivery technology will continue to improve with further reductions in calibre; this will lessen vascular access site bleeding. Finally, the first-generation re-positional valves now under evaluation, and second-generation valves with sealing skirts, will help to reduce the extent of para-valvular AR. Procedural changes will develop as well. For example, all retrograde trans-femoral TAVI, trans-aortic and subclavian cases in our centre are performed under conscious sedation. This eliminates the potential risks associated with general anaesthesia in our elderly patient cohort.

If the accumulated long-term data show continued superiority of TAVI over surgical AVR, this promising technology will likely be extended to lower risk patients. Indeed, as mentioned by *D'Ancona et al,* SURTAVI and also the UK TAVI trial will shortly begin evaluating this group; both trials are currently recruiting.[4]

There is no doubt that TAVI is here to stay. In time it may well have as much of an impact on the treatment of symptomatic aortic stenosis as angioplasty and stent insertion has had on symptomatic angina pectoris.

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References

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