Look to the future of aortic valve: Adapt surgery to patient

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The treatment of aortic valve diseases (AVD) involves a corollary of surgical technique, and thus our perspective is dramatically changed over the last few years. In the past AVD was treated with valve replacement using biological or mechanical prosthesis; but today we can tailor cardiac surgery to the patient; also frailty is not a barrier, but an indication for percutaneous or minimally invasive approach.

The evidence of minimally invasive aortic valve replacement (MI-AVR) safety and efficacy is clear and supported, in term of intra-operative skills, results and post-operative stay. The use of sutureless and rapid deployment (RD) bioprosthesis shall facilitate MI-AVR, but they are also suitable for conventional surgery, for example in case of small aortic annulus diameter, in “combined” or in REDO surgery.

Transcatheter aortic valve implantation (TAVI) has considerably changed aortic valve surgery invasiveness, indeed it has seen a rapid expansion in indications and devices. The surgery evolution has allowed to treat intermediate and high risk patient with severe peripheral arterial disease using trans-apical or trans-aortic approach.

MI-AVR, sutureless and RD bioprosthesis and TAVI allow the treatment of majority of AVD. Today we have different choices and chances to treat the patient and not only the aortic disease.