TAVI vs. Surgery vs. Medical Treatment in an All-comer Population with Severe Aortic Valve Stenosis at High Risk for Conventional Aortic Valve Replacement: effect on NYHA classification at 2 years.


Purpose:
With regard to mid-term survival of elderly patients with symptomatic degenerative aortic valve stenosis (AS), Transcatheter aortic valve implantation (TAVI) has been proven to be superior to optimal medical therapy in patients deemed at too high risk for conventional aortic valve replacement (AVR) and to be competitive to surgery in high-risk populations. In the very elderly, not only data on survival, but also on the impact on quality of life is important with regard to optimal assignment of patients to these different treatment modalities.

Methods:
Since the introduction of TAVI at our center, 163 patients (median age 83 years; interquartile range (IQR) 80 – 87; 44% male) with symptomatic AS at high risk for conventional AVR (logistic EuroSCORE 22%, IQR 14,12 – 34,3; EuroSCORE II 7,30%, IQR 4,33 – 13,55; STS score 7,30%, IQR 5,40 – 10,95) were extensively screened and proposed to undergo TAVI (SAPIEN, Edwards, Irvine, USA), AVR, or medical treatment (± percutaneous transluminal aortic valvuloplasty (PTAV)) (Figure 1). We report longer term clinical outcomes and mid- (1 year) and longer term (2 and 3 years) follow-up of assessment of NYHA.

Results:
By performing TAVI or AVR cumulative survival is significantly improved, mainly by preventing cardiovascular death (Figure 2, Panel A and B). NYHA classifications at baseline and after 1, 2 and 3 years are presented in Figure 3. In a highly symptomatic patient population (84% in NYHA class III and IV at baseline), 88% and 79% of patients treated with TAVI were scored in NYHA class 1 or 2 at one and respectively 2 years after treatment. These results are comparable to patients treated with conventional AVR (95% and 86%). Patients treated with medical therapy have dramatically worse functional outcome (only 35% and 27% in NYHA class 1 and 2 at one and two years respectively, p values <0.001 and p= 0.032). No survival after 3 years in the medically treated group.

Conclusions:
Our results confirm that TAVI is an effective and safe option for patients who are less suitable for AVR. Both TAVI and AVR mainly reduce cardiovascular mortality. Furthermore TAVI has a profound and durable impact on quality of life. No potential conflict of interest.