Abstract:

BACKGROUND: The Trifecta® valve is a latest generation bioprosthetic designed for supra annular aortic placement. The study main objective is the evaluation of the hemodynamic valve performance and the 3 to 72 months post implantation clinical status of the patients.

METHODS: Cohort study on patients older than 18 years, undergoing aortic valve replacement with Trifecta® biological valve prosthesis between March 2012 and December 2018. The follow up was made by clinical evaluation and serial echocardiogram from 3 months to 6 years after surgery.

RESULTS: 165 patients were included, 53.3% male. Mean age 69.6 years (30-90). The main indication for valve replacement was aortic stenosis (66.7%). Mean EuroSCORE II was 4.18 (0.56 - 24.35). Preoperative 60.6%, 29.6% and 9.69% of patients were in New York Heart Association functional class (NYHA) II, III and IV respectively. After the surgery, the mean effective orifice area index (IEOA) was 1.025 cm²/m² for prosthesis No 19; 1.059 cm²/m² (prosthesis 21); 1.085 cm²/m² (prosthesis 23) and 1.069 cm²/m² (prosthesis 25). The mean transvalvular gradient was 4.2 mmHg at the immediate postoperative period, and the mean gradient at 1, 2, 3, 4, 5, 6 years was 6.3, 7.1, 8.3, 8.9, 9.7 and 10.8 mmHg respectively. 30 days mortality was 2.42%. None of the patients have a post operative patient-prosthesis mismatch (PPM), neither thromboembolic events or endocarditis. There is no patients with re-operation for structural valve deterioration. After follow up, 83.6% of the patients are in NYHA I functional class.

CONCLUSION: In this Study group, Trifecta® valve for aortic valve replacement provides excellent clinical and hemodynamic outcomes demonstrated by a low post operative transvalvular gradients; IEOA that avoid PPM; excellent clinical outcome and recovery of NYHA in more than 83% of the patients.