Comparing valve-in-valve Transcatheter Aortic Valve Implantation and Redo Aortic Valve Replacement: A National Project

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Abstract

Background: Patients requiring reoperation for failing bioprosthetic implantations have increased. This national project investigates the outcomes of redo aortic valve replacement and valve-in-valve transcatheter valve implantation to delineate the best treatment modality. **Methods:** A UK retrospective project including 11 tertiary centres. A propensity score matching with 0,02 tolerance for age, BSA, Diabetes Mellitus, Logistic EuroSCORE and NCEPOD was performed. Person Chi-Square tests, one-way ANOVA and Kaplan-Meyer survival log rank were utilised for the analysis. 649 patients matched to a final database of 353 patients. **Results:** Redo-AVR 48,4% (n=171) and valve-in-valve TAVI 51,6% (n=182). Primary outcomes were in-hospital mortality (4,1% n=7 vs 0, p 0,006) and long-term mortality (33,9% n=58 vs 20,9% n=38, p 0,006). The Kaplan Meyer log rank had a significance <0,001, in favour of valve-in-valve TAVI. Secondary outcomes were: arrhythmias (24,6% n=42 vs 0,5% n=1, p<0,001), PPM (8,8% n=15 vs 4,4% n=8, p 0,09), respiratory (15,2% n=26 vs 2,7% n=5, p<0,001), renal (11,1% n=19 vs 6% n=11, p 0,08), neurological (7,6% n=13 vs 1,6% n=3, p 0,007), and wound complications (2,9% n=5 vs 4,4% n=8, p 0,4). Finally, MOF (4,7% n=8 vs 0,5% n=1, p 0,01), IABP was 4,7% n=8 vs 0 (p 0,003), re-operation 5,3% n=9 vs 0 (p 0,002), ITU (hours) 49,77±55,09 vs 11,42±38,57 (p 0,001), and hospital stay (days) 13,81±11,55 vs 7,76±9,24 (p 0,001). Moderate to severe residual aortic regurgitations resulted in 0,6% n=1 for redo AVR and 4,9% n=9 for valve-in-valve TAVI, p 0,001.
Conclusion: Redo aortic valve replacement resulted in greater short- and long-term mortality, as well as peri-operative morbidity in comparison with valve-in-valve TAVI. The latter appeared a favourable treatment modality, at the expenses of residual aortic valve regurgitation. This is a preliminary analysis.

Image



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Biography

Francesca Gatta is a surgical trainee in the United Kingdom with a strong interest for Cardiology and Cardiothoracic Surgery. She has been building her academic and clinical experience since the years of Medical School, in Rome. Francesca Gatta has published several papers, conducted multiple research projects and led different teaching courses. Finally, she is also the President of The National Surgical Skills Society, aimed at delivering "hands-on" courses for trainees at all levels in the United Kingdom and abroad.

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