



TAVI in bicuspid aortic valve: a systematic review

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Abstract:

Objective:

To assess the clinical outcomes of TAVI in patients with bicuspid aortic valves that presented with aortic stenosis

Methods:

Electronic search performed from inception to March 2019 without any language restriction. Weighted mean differences from pooled data were collected analysed. Primary outcome was stroke rate and secondary outcomes were rate of permanent pacemaker insertion, 30-day mortality and vascular complication rate.

Results:

A total of 5,248 patients from 19 studies were eligible for inclusion and analysed. Mean age was 78 ± 8.8 years. NYHA III-IV was present in 67% of the cohort, hypertension in 49% of the cohort. Weight mean Euroscore was 18 ± 11.3 ; mean AVA was 0.7 ± 0.2 cm² and mean ascending aorta diameter was 36.8 ± 4.8 mm. Edward Spaien (ES) valve was used in 51% of patients while Core valve (CV) in 40%. Transfemoral approach utilized in 85% of the cases, transapical in 8%, others in 7%. Mean size of ES valves used was 26 ± 5 mm while CV was 27 ± 3 mm. Technical success was achieved in 93% of cases. Postoperative mean gradient was 13.7 ± 5.9 mm. Stroke rate was 5%, PPM requirement was 22%, all cause 30-day mortality was 8%, 3% required to be converted to open and vascular complications were reported in 14%.

Conclusion:

TAVI in BAV patients is associated with satisfactory perioperative outcomes. There is lack of long-term data in such high-risk cohort. Larger studies with long term follow up is required to confirm those findings.

Biography:

Francesca Gatta is a Foundation Year 2 Trainee currently working in Acute Medicine at Hull Royal Infirmary and



will subsequently rotate to General Surgery and GP. She is planning to apply for the Cardio-Thoracic Surgery run-through programme in November 2019 and has a special interest in Congenital Cardiac Surgery. Francesca graduated in Medicine and Surgery in Rome, Italy, in 2017 and moved to the UK the following year to start a job as FY1 Doctor. She spent 2 years in Adult Cardiac Surgery and 1 year in Paediatric Cardiac Surgery as Elective Placement during Medical School and 1 year post-graduation in Paediatric Cardiac Surgery. She has been working on some projects in order to obtain publications in Cardiac Surgery and, therefore, boost her CV.

Publication of speakers:

1. Mulder BJ, et al. Epidemiology of adult congenital heart disease: demographic variations worldwide. *Neth Heart J* 2012; 20: 505-8.
2. Cedars A, Braverman AC, et al. The many faces of bicuspid aortic valve disease. *Prog Pediatr Cardiol* 2012; 34: 91-6. Hoffman JI, Kaplan S. The incidence of congenital heart disease. *J Am Coll Cardiol* 2002; 39: 1890-900.
3. Hoffman JI, Kaplan S, et al. The incidence of congenital heart disease. *J Am Coll Cardiol* 2002; 39: 1890-900.
4. van Engelen K, Bartelings MM, Gittenberger-de-Groot AC, et al. Bicuspid aortic valve morphology and associated cardiovascular abnormalities in fetal Turner syndrome: a pathomorphological study. *Fetal Diagn Ther* 2014; 36: 59-68.

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