Minimal access surgical TAVI in a high risk group

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INTRODUCTION

Transcatheter aortic valve implantation (TAVI) is the recommended treatment for high-risk patients with aortic valve stenosis. It is advantageous compared to surgery offering shortened recovery times. Compared to national data in the UK we perform a significant proportion of non-femoral TAVI. We conducted a study to compare outcomes including all-cause mortality, stroke, myocardial infarction, AKI, bleeding and vascular complications for non-transfemoral TAVI against national and international standards.

RESULTS

-Total cases: 680
-Non-TF:141(20%)
-Non-TF complications:
-MI 1(0.7%)
-Strokes 2(1.4%)
-Vascular Complications 10(7.1%)
-AKI 22(15.6%)
- Deaths 10(7.1%)
-Trans-/Direct- Aortic had the best vascular outcomes overall

Proportion of TF complications 174/539(32.2%)
Proportion of Non-TF complications 45/141(31.9%)

Transfemoral(TF)

539 cases. Of those:
MI 4 0.74%
Stroke 28 5.2%
Vascular Complication 50 9.3%
Bleeding 44 (30 Minor ; 7 major ; 7 life threatening; 2.6%
Aki 30 (11 stage 1; 6 stage 2; 13 stage 3) 5.5%
Death 18 3.3%

Trans-/Direct Aortic

46 cases. Of those:
MI 0%
Stroke 0%
Vascular Complication 0%
Bleeding 11 (6 minor ; 3 major ; 2 life threatening) 10.9%
Aki 10 (2 stage 1; 3 stage 2 ; 5 stage 3) 21.7%
Death 3 6.5%

Subclavian

26 cases. Of those:
MI 1 3.8%
Stroke 1 3.8%
Vascular Complication 4 15.3%
Bleeding 2 (1 minor; 1 major ; 0 life threatening) Life threatening 0%
Major Bleeding 3.8%
Aki 5 (4 stage 1; 0 stage 2 ; 1 stage 3) 19.2%
Death 1 3.8%

Transapical

69 cases. Of those:
MI 0%
Stroke 1 1.4%
Vascular Complication 6 8.7%
Bleeding 9 (3 minor; 2 major ; 4 life threatening) 8.7%
Aki 8 (1 stage 1 ; 1 stage 2 ; 6 stage 3) 11.6%
Death 6 8.7%

Better then outcome
Worse then outcome

AIM

We aimed at assessing our performance for each outcome against the published national and international standards

METHODS

1- We stratified all TAVI patients from 2013 to 2020 based on the valve delivery approach (transfemoral, trans-/direct- aortic, subclavian, transapical).
2- For each patient, we recorded the following **6 outcomes** (MI, stroke, vascular complications, bleeding (minor, major or life threatening), AKI (with stage) and death).
3- We compared the percentage of each outcome against the published national standards (NICE, UK registry, France Registry).

CONCLUSIONS

Patients who had surgical access TAVI and in particular via Transaortic access had acceptable outcomes despite the high-risk profile of these patients who were not eligible for TF TAVI. Large scale randomized studies should focus on safety of Transaortic TAVI in this high-risk patient cohort.

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