Treatment of Aortic Valve Stenosis

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Background

Aortic valve stenosis is the most common valvular disease in developed countries, leading to notable patient morbidity and mortality.[1] Current treatment includes either transcatheter aortic valve replacement and surgical aortic valve replacement.[2]

Purpose

This paper aims to compare the long-term efficacy and safety of TAVR and SAVR in the treatment of patients with aortic stenosis.

PICOT

In patients with aortic stenosis, is transcatheter aortic valve replacement (TAVR) more effective in reducing overall mortality and complications compared to surgical aortic valve replacement (SAVR) after 5 years of the procedure?

Design & Methods

Keywords: TAVR, SAVR, aortic valve stenosis, long-term outcomes, all-cause mortality, valve deterioration.
Inclusion: peer-reviewed studies, studies published after 2018, and studies with participants without severe co-morbidities, such as heart failure, coronary artery disease, or other valvular diseases of the heart.
Exclusion: non-peer-reviewed studies, studies published before 2018, and studies including participants with severe comorbid conditions.

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Summary of Evidence Search:

Database	Yielded	Reviewed	Included in Analysis
PubMed	124	16	3
Google Scholar	800	10	4
Valpo library summon	149	9	3
Total:	1073	35	10

Synthesis of Evidence

Type of study	Included in analysis
Meta-analysis	2
Randomized controlled trial	2
Retrospective study	1
Total	5

Results

- SAVR has lower incidences of all-cause mortality at 5 years in patients with aortic stenosis without severe co-morbidities.[3-7]
- TAVR has a mild survival benefit at 30 days post-op, but has higher long term complications.[3]
- SAVR has a better valve durability at 5 years with less structural degradation and aortic regurgitation.[7]
- Both treatments increase quality of life after the procedure.[4]

Discussion

- SAVR may be a better option for patients with low surgical risk and longer life expectancies, as it has better long term outcomes and is more durable compared to SAVR
- TAVR should be considered in patients with shorter life expectancies and higher surgical risk, as it is less invasive

Limitations

Limitations include that patients did not have co-morbidities that are common in patients with aortic stenosis, making it difficult to extrapolate data into the general population. Additionally, several different brands of valves were used between the studies.

Future research

Studies with longer time frames for further comparison are needed, as well as studies that involve patients with other co-morbidities.

Conclusion

- This study aimed to evaluate long term outcomes of patients with aortic stenosis that underwent TAVR or SAVR
- At 5 years, in patients with aortic stenosis without severe co-morbidities, SAVR appears to have lower incidences of all-cause mortality, as well as better valve performance

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