

TRENDS AND BURDEN OF HEART VALVE DISEASE IN KOREA : A NATIONAL CLAIMS DATA ANALYSIS

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Background

Heart valve disease (HVD) is becoming an increasingly important public health challenge in aging societies. Despite advances in diagnosis and treatment, evidence describing long-term epidemiologic trends, healthcare utilization, disease burden, and treatment pathways at a national level remains limited in Korea. Understanding these patterns is essential for informing healthcare planning and improving access to appropriate care.

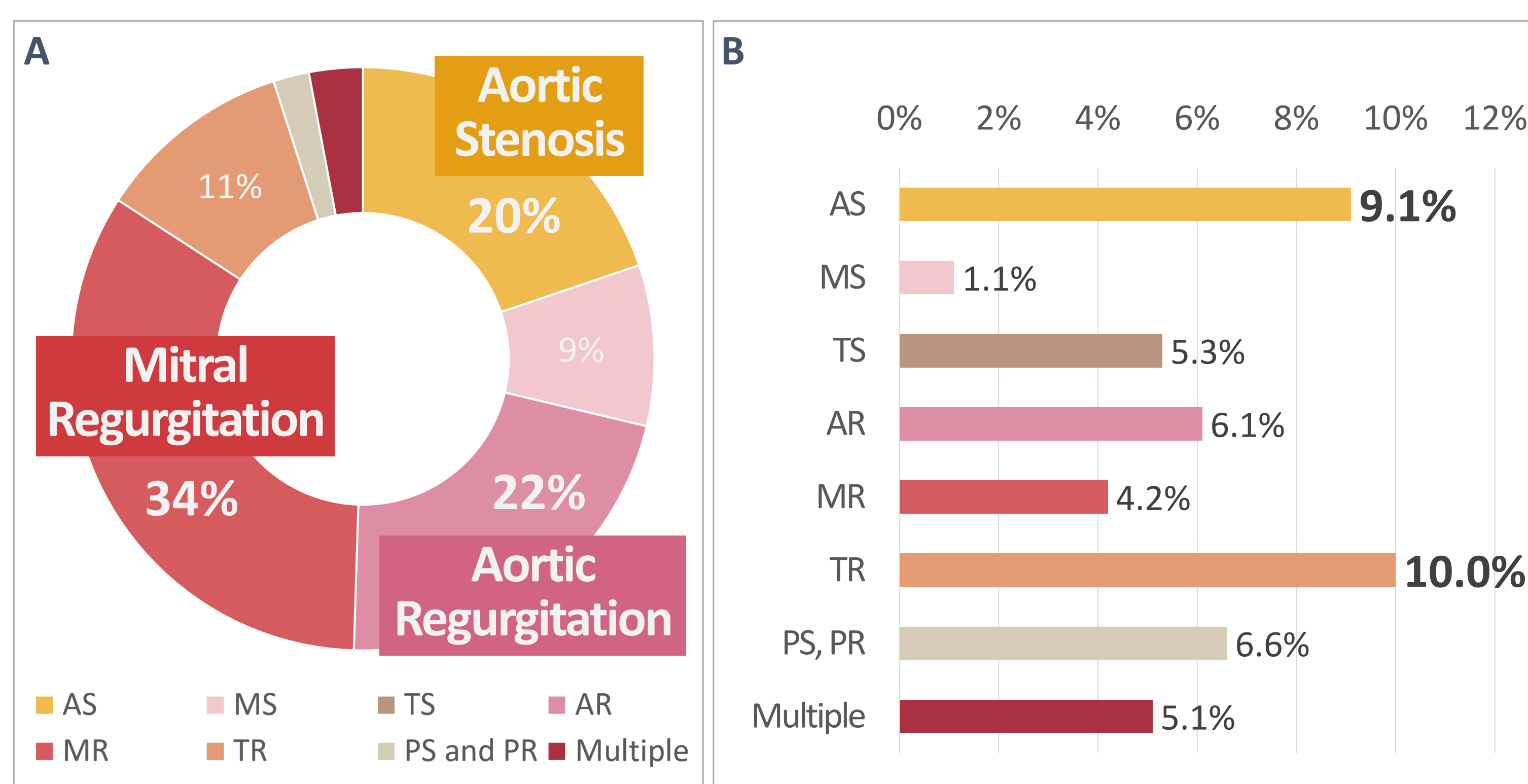
Objectives

This study evaluated longitudinal trends in epidemiology, healthcare utilization, treatment patterns, disease burden, and diagnosis-to-treatment intervals among patients with major HVD in Korea using nationwide administrative claims data collected between 2014 and 2023.

Methods

A retrospective observational study was conducted using nationwide Korean health insurance claims data from 2014 through 2023. Patients with at least one confirmed diagnosis of aortic stenosis (AS), mitral regurgitation (MR), aortic regurgitation (AR), or other valvular disorders were identified using validated diagnosis codes. Patient volume, healthcare utilization, treatment patterns, medical expenditures, mortality, and time from diagnosis to definitive intervention were evaluated for temporal change, with descriptive analyses and annual trend assessments carried out by diseases.

Figure 1. Distribution and Average Annual Growth of HVD Patients, 2014–2023



(A) Distribution of HVD Patients, 2014–2023. **(B)** Average Annual Growth Rate, 2014–2023. AS: Aortic stenosis, MS: Mitral stenosis, TS: Tricuspid stenosis, AR: Aortic regurgitation, MR: Mitral regurgitation, TR: Tricuspid regurgitation, PS: Pulmonary stenosis, PR: Pulmonary regurgitation

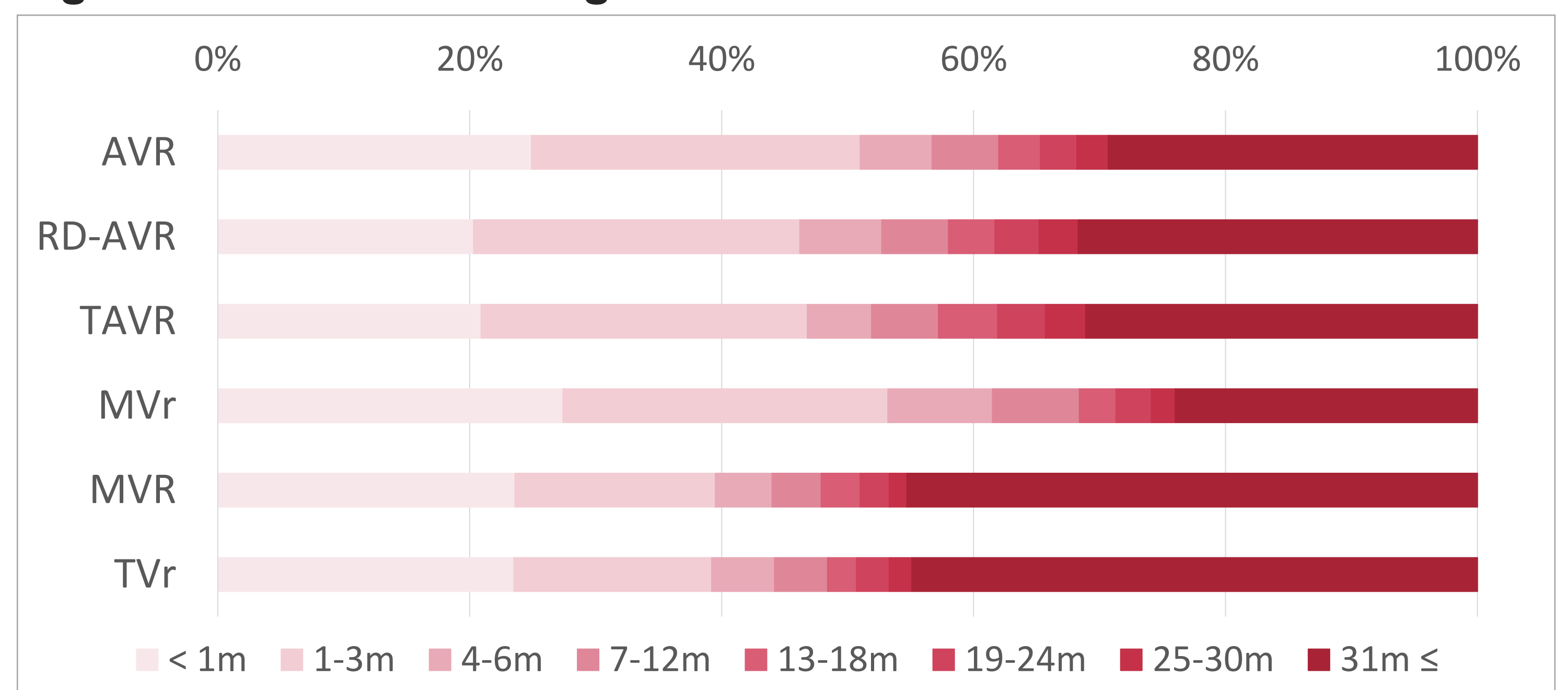
Results

Diagnosed HVD cases increased steadily across the study period, with MR (34.2%), AR (21.9%), and AS (19.9%) comprising more than three-quarters of the population. Average annual growth was highest in TR (10.0%) followed by AS (9.1%). Outpatient visits and hospital admissions increased correspondingly, indicating rising healthcare resource utilization.

Treatment patterns varied by disease. Surgical interventions were most common in MR (29.0%) and AS (26.5%) of all surgical procedures, while transcatheter interventions were concentrated in AS (78.6% of all transcatheter procedures). AS accounted for the largest share of clinical and economic burden among HVD. Medical expenditures increased most in AS over the study period, and AS was associated with 526 deaths in 2023, representing 45.1% of all HVD-related deaths.

Intervals between diagnosis and treatment were prolonged across the study period, with 43%–48% of treated patients exceeding six months from diagnosis to definitive intervention. Mean time to treatment increased annually between 2021 and 2023.

Figure 2. Distribution of Diagnosis-to-Treatment Interval



AVR: Aortic valve replacement, RD-AVR: Rapid-deployment AVR, TAVR: Transcatheter aortic valve replacement, MVr: Mitral valve repair, MVR: Mitral valve replacement, TVr: Tricuspid valve repair

Conclusion

This nationwide analysis showed increasing trends in HVD prevalence, healthcare utilization, and medical expenditures in Korea. MR accounted for the largest patient population, while AS was associated with the greatest burden in terms of healthcare costs and HVD-related mortality. Delays between diagnosis and treatment remained common, highlighting the need to improve timely access to appropriate care. Future studies incorporating disease severity are needed to provide a more comprehensive assessment of HVD burden and care pathways.

