WORLD HEART FEDERATION

WORLD CONGRESS ON RHEUMATIC HEART DISEASE

2-4 November 2023 • Abu Dhabi

Submission Id: 315

Title: UNRAVELING THE BEAT: RBBB AND THE WILKINS SCORE IN MITRAL STENOSIS PROGRESSION

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Background & Aims: Mitral stenosis (MS) is a form of valvular heart disease characterized by the narrowing of the mitral valve orifice. Electrocardiogram (ECG) is still not sensitive enough to detect mild MS, but can be used in moderate-severe MS. It is known that structural cardiac disorders, such as valvular disease occasionally cause Right Bundle Branch Block (RBBB), suggesting RBBB as a marker of progressive, degenerative disease of the ventricle. Our aim was to evaluate whether RBBB may be related to the rate of stenosis progression in MS patients.

Methods: 297 MS patients from January 2019 - June 2023 in Sardjito Hospital were included in this study. Patients were then divided into 2 groups: Patients with RBBB and without RBBB at admission. An echocardiographic examination was then performed to determine the mitral valve area (MVA) and Wilkins score to determine MS progressivity.

Results: The majority of 208 (70%) patients were female with a mean age of 38±22.3 years. There were 59 (19.9%) patients with RBBB and 238 (80.1%) patients without RBBB. In the presence of Right Bundle Branch Block (RBBB), patients exhibit Right Axis Deviation (RAD) ($p = 0.000$). RBBB was associated with Wilkins's score. People with RBBB are more likely to have a Wilkins score higher than 8 ($p = 0.030$; OR = 0.522). Patients with RBBB had smaller MVA values than patients without RBBB (0.75 ± 0.37 vs 0.89 ± 0.38; $p = 0.012$).

Conclusions: The presence of the Right Bundle Branch Block (RBBB) feature can facilitate the assessment of disease progression in Mitral Stenosis, as evidenced by changes in the Wilkins Score.