its prevalence, severity and form of valvular disease and, in a follow-up study, to evaluate how these findings changed up to five years later.

Methods: A systematic cross-sectional echocardiographic screening study was performed in 3062 randomly selected schoolchildren, aged 5 to 15 years, in Aswan, Egypt. The diagnosis of RHD was based on the current WHF criteria and the images obtained were reviewed by two senior cardiologists. Follow-up of children with a definite or possible diagnosis of RHD together and a control group of 80 normal children was carried out 48 to 60 months later using the same techniques.

The initial screening was carried out when the children were aged 10±2.6 years, with a slight male predominance (58.7%, n=1796). Sixty children were diagnosed with definite RHD (19.6 per 1000) and 35 with possible disease (11.4 per 1000). Most children had mitral valve disease (n=68, 97.1%). Of the 72 children followed up progression was documented in 14 children (19.4%) and regression in 30 (41.7%) children. Rates of progression and regression were related to both gender and age. Boys had lower rates of progression while older children had lower rates of regression (regression was seen in 23 out of 30 children (76.7%) studied at the age of 10–15 years compared to only 7 out of 30 (23.3%) in the age group 16–19 years. P<0.001. Children with functional defects of the valve also tended to show lower rates of progression than the children with structural changes. The 72 cases of possible or definite RHD were stratified into two subgroups based on the presence or absence of MR. Of the 57 cases with MR, nine (16%) had progression and 48 (86%) had regression, with progression of 14 (21%) and regression of 40 (63%) cases who did not have MR, of which four had definite RHD.

Conclusions: Our study shows a high prevalence of subclinical RHD in school children in urban Aswan. Although a high proportion of the abnormalities originally detected during follow-up, both progression and regression of valve lesions were observed. Disease progression and regression seemed to relate to gender, age and the presence of initial mitral regurgitation.

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The lack of clinical awareness towards the diagnosis of mitral regurgitation. Insights from a European survey
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detected persisted at follow-up, both progression and regression of valve lesions

Rosenhek et al. (2018) found that subclinical RHD was detected in 21.5% of schoolchildren in Aswan, Egypt. Although a high proportion of the abnormalities originally detected during follow-up, both progression and regression of valve lesions were observed. Disease progression and regression seemed to relate to gender, age, and the presence of initial mitral regurgitation.
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Ivabradine versus beta blockers in mitral stenosis in sinus rhythm: a meta-analysis of randomized controlled trials
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Background: Symptoms of mitral stenosis (MS) are worsened during tachycardia and exercise. Beta-blockers are used in controlling heart rate (HR) in MS, resulting in symptom improvement, but come with significant side effects. Ivabradine has a selective action on the sinus node devoid of the usual side effects of beta blockers. Small studies have recently investigated the role of ivabradine in mitral stenosis in sinus rhythm.

Research question: Among patients with mitral stenosis in sinus rhythm, is ivabradine comparable to beta-blockers in terms of exercise duration, maximum HR achieved, resting HR, mean gradient, and working capacity?

Objectives: To determine the efficacy of ivabradine compared to beta-blockers, in terms of exercise duration, maximum HR achieved, resting HR, mean gradient, and working capacity among patients with mitral stenosis in sinus rhythm.

Methods: We conducted a systematic search of studies using MEDLINE, Google Scholar, ScienceDirect, Scopus, Clinical Key, Cochrane, and clinicaltrials.gov databases in all languages and examined reference lists of studies. We included studies if they are 1) randomized controlled trials comparing ivabradine and beta-blockers; 2) of adults > 19 years old with mitral stenosis in sinus rhythm; and 3) reported data on exercise duration, maximum HR achieved, resting HR, mean gradient, and working capacity. Studies identified were assessed for risk of bias using the Cochrane Collaboration Tool for Assessing Risk of Bias. We used inverse variance analysis of fixed effects to compute for mean difference, carried out using Review Manager (RevMan) 5.3.

Results: Pooled analysis from five identified trials showed that among patients with mitral stenosis in sinus rhythm, ivabradine was better compared to beta-blockers in total exercise duration [mean difference 32.73 seconds (95% CI 12.19, 53.27; p<0.002; I2=0%); maximum HR achieved after exercise [mean difference -3.87 beats per minute (95% CI -5.88, -1.86; p<0.002; I2=23%)]; and work capacity [mean difference 0.56 METS (95% CI 0.33, 0.80; p<0.00001; I2=0%)]; inferior to beta blockers in resting HR achieved [mean difference 1.83 seconds (95% CI 0.39, 3.28; p=0.01; I2=91%)]; and comparable to beta-blockers in terms of mean gradient [mean difference -0.52 seconds (95% CI -1.20, 0.16; p=0.13; I2=6%)].

Conclusion: Ivabradine is better or comparable to beta-blockers in terms of the outcomes measured, and may be considered as an alternative for patients with mitral stenosis in sinus rhythm who are intolerant to beta-blockers.