

The Evidence for a Population Screening Program for Rheumatic Heart Disease in India



We read about the Himachal Pradesh Rheumatic Heart Disease (HP-RHD) registry data from Negi et al. [1] and would like to commend the authors for their efforts. Rheumatic heart disease (RHD) affects an estimated 15 million people worldwide [2], with between a quarter and one-half of all cases occurring in India [1]. We believe that there is a need for a population-wide intervention to reduce mortality and morbidity rates due to RHD in low- and middle-income countries such as India.

Negi et al. [1] described the clinical characteristics and cardiovascular complications in, and management of, patients in India with RHD. This patient cohort had a particularly low uptake of prophylactic antibiotics and an underuse of valvular repair surgery was identified. The authors concluded that early detection of RHD is important for early identification of patients at high risk of adverse cardiovascular events.

Of the patients who were enrolled in the HP-RHD registry, 15.7% had symptoms of advanced heart failure; and there was also moderate-to-severe valvular heart disease present in 69.3% of the cohort, indicating that RHD has a late presentation in this setting. Only 25.1% of patients recalled having acute rheumatic fever. This suggests that the best way forward is a population-based screening program, as three-quarters of patients could otherwise be missed.

Screening using handheld echocardiography (ECHO) by nonexperts in high-risk populations such as this has been proven to work in RHD-endemic countries. For example, Nascimento et al. [3] showed high uptake of screening at primary health care centers in a high-risk Brazilian population.

In the study conducted by Negi et al. [1], only half the number of patients for which benzathine penicillin prophylaxis was indicated actually received prophylaxis. We would make the argument that, if these patients were identified by a screening program early in their disease cycle and were administered penicillin prophylaxis, some of them could be prevented from progressing to severe disease.

Furthermore, in this study, 9.7% of patients had undergone mitral valve (MV) or aortic valve replacement and 16.1% had undergone balloon valvotomy. Recent data have shown excellent results with MV repair compared with replacement. For example, MV repair in patients with RHD has been reported by Krishna Moorthy et al. [2] to have excellent outcomes, with a 93.9% survival at 20 years for patients who underwent MV repair,

compared with a survival of 66.8% for patients who had a mechanical MV replacement. Simultaneous MV replacement with tricuspid valve annuloplasty has also been associated with good outcomes, with Zakod et al. [4] demonstrating a 56% lower risk of mortality at 10 years for patients with significant tricuspid regurgitation undergoing concomitant tricuspid valve annuloplasty compared with isolated MV replacement. Both these techniques could be used together in this population.

Moreover, the risk stratification tool described by Nunes et al. [5] could be used to identify which patients in the Indian population require prophylaxis only, and which require valvular repair, to prevent disease progression. Early identification and appropriate management of these groups of patients could be effective in reducing disease burden in this high-risk population group. Therefore, we believe this to be a strong indication for pilot studies to test the feasibility of population-wide screening of RHD in India, with a view to replicating the successes of similar studies in other RHD endemic countries.

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