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Letter to the Editor

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Paths to improved rheumatic heart disease: screening and prophylaxis

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We were interested to read the paper by Atalay et al on the prevalence of rheumatic heart disease in school children in Turkey.[1]

We wanted to discuss some further points regarding penicillin prophylaxis and the diagnosis of rheumatic heart disease through echocardiography. Liaw et al proposed multiple strategies for increasing adherence to secondary prophylaxis with benzathine penicillin G following an episode of acute rheumatic fever to prevent progression. Their recommendations focused on cross-application of successful strategies from the Australian National Immunisation Program such as integrating prophylaxis databases with national immunisation databases to improve both monitoring and delivery of the service. They also recommended the use of financial incentives for service providers for each patient attaining >80% adherence in order to help instigate the development of locally tailored strategies. A further recommendation was an improved focus on educating healthcare professionals and the public. Moreover, they recommended an increased focus on home visits as a method of service delivery, particularly in areas of poor health literacy.[2]

In the coming years, the efficacy of secondary prophylaxis using benzathine penicillin G will be evaluated by Beaton et al in the GOAL trial; a randomised controlled trial currently being undertaken in Northern Uganda on a sample of 916 children between 5 and 7 years old confirmed to have borderline rheumatic heart disease or mild definite rheumatic heart disease. The trial takes place between 2018 and 2021 with the objective of determining if secondary prophylaxis with every-4-week injectable benzathine penicillin G improves outcomes for children diagnosed with latent rheumatic heart disease.[3]

Significant developments in handheld echocardiography present opportunities for screening for rheumatic heart disease in countries with limited cardiac services through highly abbreviated electrocardiographic screening such as single parasternal-long-axis-view-sweep of the heart. Remenyi et al demonstrated the efficacy of such screening on 1365 children aged 5–20 in Timor-Leste, where using this technique in two dimensional and Doppler imaging resulted in no cases missed when compared with definitive echocardiographic study. Remeyni et al concluded that their highly abbreviated diagnostic protocol is ideal for the rapid two-stage screening process for rheumatic heart disease in school-aged children in resource-poor settings. Moreover, the technique has a further benefit in that it allows for greater privacy for patients by not requiring the removal of garments for effective usage, which is particularly beneficial in school screening programmes.[4]

Furthermore, the development of efficacious simplified echo criteria by Nunes et al represents a significant advancement in the screening of rheumatic heart disease in resource-limited environments. Significantly, their criteria maintained very high levels of sensitivity for rheumatic heart disease diagnosis whilst sustaining compatibility with handheld echocardiography equipment, presenting much more cost-effective screening and potentially opening the avenue to compatibility with one-stage screening without confirmatory follow-up, further reducing costs of screening and increasing practicality. In addition, the criteria developed by Nunes et al showed significant promise for predicting disease prognosis, whilst clinical decision-making with respect to secondary prophylaxis has the potential to be also informed by risk stratification at the time of diagnosis of latent rheumatic heart disease by the criteria.[5]

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