Abstract: **P1243**

Echocardiographic screening for rheumatic heart disease in a ugandan orphanage - feasibility and outcomes

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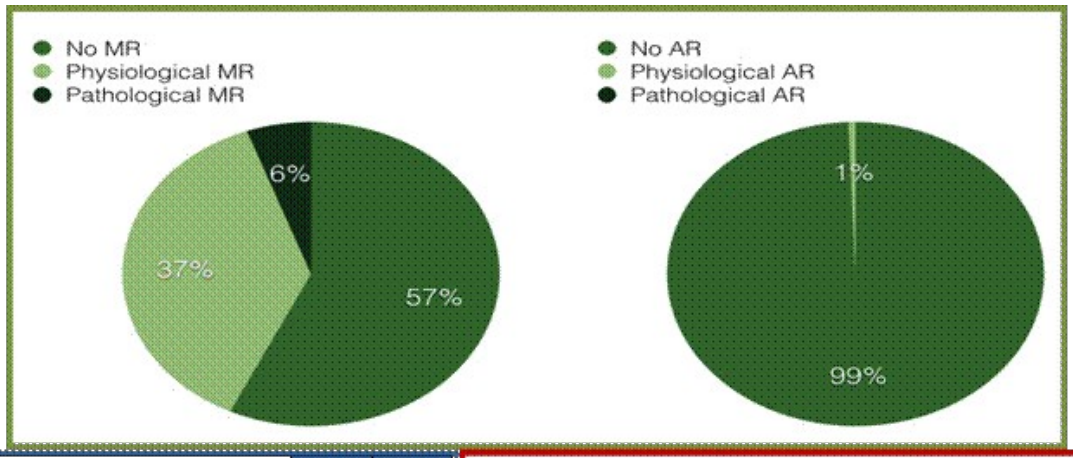
BACKGROUND: Rheumatic heart disease (RHD) remains a major cause of cardiovascular disease in developing nations leading to more than 230000 deaths annually. Primary episodes of acute rheumatic fever occur mainly between 5 to 14 years old and it is estimated than 2.4 million children have RHD worldwide (94% in developing countries). Hygienic conditions and antibiotics availability have been demonstrated to be involved in the pathogenesis. Lack of primary prevention (treatment of group A streptococcal infections, mainly pharyngitis), and wide screening programs to detect early stages of RHD, results in late disease presentation, with most patients only seeking medical care due to long-term structural and hemodynamic complications, such as heart failure, atrial fibrillation and stroke. In developing countries (i.e. Uganda) echocardiographic screening is warranted for detecting asymptomatic individuals who would benefit from prophylaxis, monitoring and intervention when appropriate.
PURPOSE: To asses the feasibility and the prevalence of RHD in a screening program in a Ugandan orphanage.
METHODS: We performed a RHD focused echocardiogram in all the children (5-14 years old) in a orphanage in north-Uganda. Exams were performed with a portable machine (GE Vivid-I) from Centro Cardiologico Monzino (Italy). All the time intervals were recorded (minutes).
RESULTS: A total number of 163 asymptomatic children were screened (age 9..1 ± 3.3 years; male 46%; 17% affected by severe motor impairment). Feasibility rate was 99.4%. An average of 20.4 exams were performed per day with a total effective time of 19 hours and 2 minutes (7 minutes and 1 second per exam). An average of 15.5 images were collected per subject (10.7 clips and 4.8 frames). Prevalence of mitral and aortic regurgitation (MR and AR), occurrence of WHO criteria for mitral RHD diagnosis and outcomes are shown in Figure (top, bottom left, bottom right respectively). Definite RHD patients were treated with i.m. penicillin according to guidelines, in border-line cases a new echocardiogram has been scheduled at 6 months. Collateraly we found 6 (3.7%) congenital heart disease (5 atrial septal defects, 1 coronary-cameral fistula).
CONCLUSION: We demonstrated the feasibility of an echocardiogram screening for RHD in a Ugandan orphanage. Few factors (good clinical and hygienic care, availability of antibiotics and closeness of a big Hospital) can be responsible for the low prevalence of the disease compared to other populations.



	N	%
Anterior leaflet > 3 mm	41	25.2
Anterior leaflet ≥ 3 mm	124	76.1
Chordal thickening	2	1.2
Prolapse	12	7.4
Restrictive motion	4	2.5
Jet seen in 2 views	74	45.4
Jet lenght > 2 cm	19	11.7
Pan-systolic jet	13	8.0
Jet velocity > 3 m/s	31	19.0
Pathological mitral regurgitation	9	5.5
Mitral valve gradient > 4 mmHg	0	0.0