

Rheumatic Heart Disease: a major health problem in El Obeid Hospital, Western Sudan

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Abstract:

Objectives: to reflect on rheumatic heart disease (RHD) as an endemic noncommunicable health problem and to identify the risk factors, the common presenting symptoms and common complications of rheumatic heart disease in AIObeid Hospital, Sudan.

Patients and methods: This study is a hospital based study done in Elobied Teaching Hospital for 53 patients who were admitted to the medical wards with RHD in the period between January 2006 and December 2006.

Results: Females were predominating in the study population (60%) and the majority of patients belonged to age group 16-40 years (88%). The majority of patients came from rural areas (81%). The common presenting symptoms were those of congestive heart failure while the common reported complications were congestive heart failure and sub-acute bacteria endocarditis.

Conclusion: RHD is still a major health problem in Kordofan states that require more attention of integrated health services in rural areas.

Key words: congestive, heart failure, sub-acute bacteria endocarditis

Introduction

Rheumatic fever is an immunologically mediated connective tissue disease subsequent to infection with group A- beta haemolytic streptococci. Rheumatic heart disease (RHD) is the most important sequel of rheumatic fever¹. In developed countries, rheumatic fever and RHD have become uncommon health problems while in third world areas such as India, the middle east, sub-Sahara Africa, rheumatic fever remains the leading cause of heart disease in children and young adults². The reasons for the declining incidence of rheumatic fever in the Western world are not entirely clear but in part were probably related to less overcrowding, better sanitation and good living conditions, all of which result in a reduction in infectious diseases in general and streptococcal infection in particular³. RHD is the most important form of acquired cardiovascular disease in children and adolescence in Africa⁴.

Elobeid Teaching Hospital is in Kodofan state, middle West of Sudan. It has a wide catch up area including different states (North Kordofan, West Kordofan, South Kordofan, parts of Darfour states). Most of the inhabitants work in agriculture, some are shepherds, and others are manual workers, hence most of the inhabitants are of low socio-economic classes. To the best of our knowledge this is the first study concerning RHD to be conducted in Kordofan state.

This study aimed to assess RHD as a health problem and to identify the risk factors, the common presenting symptoms and common complications of RHD among patients admitted to medical wards in Elobied Teaching Hospital in a period of one year (January- December 2006).

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Patients and methods

This study is a hospital based study. It was carried in Elobied Teaching Hospital The medical and demographic data of 53 patients who were admitted to the medical wards in the period from January 2006- December 2006 with rheumatic heart disease were collected and studied.

Results

The study included 53 patients. The age of the patients ranged from 12 to 45 years, with a mean (\pm SD) of 26.8 (\pm 9.2) years (Fig 1).

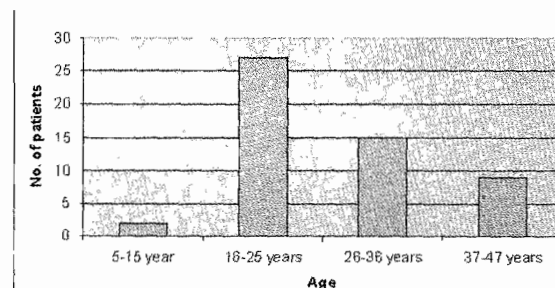


Fig 1. Age distribution

The mean (\pm SD) age of male patients was 27.5 \pm 8.5 years, while that of the females was 25.7 \pm 9.5 years. Male/female ratio was 1:1.5. Patients residing in the town were 19%. The common presenting symptoms were shown in Fig. 2.

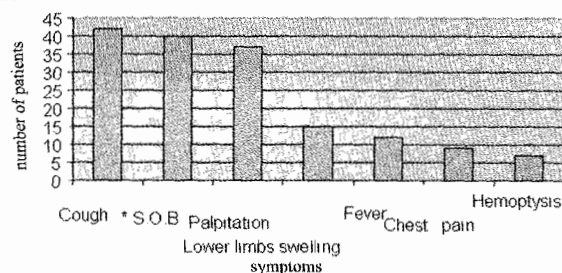


Fig 2. common presenting symptoms

* S.O.B: Shortness of breath

Patients belonging to the low socioeconomic class comprise 74%. Mitral and aortic valves were involved in 92% and 80% of the patients respectively. In 40% of patients there were mixed mitral valve lesions (both mitral stenosis and regurgitation), without evidence of other valves involvement. In 19% of patients both the mitral and aortic valves were involved. Common complications were shown in Fig. 3.

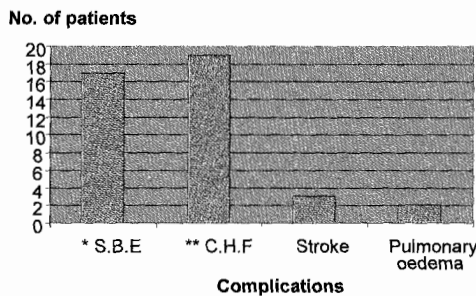


Fig. 3. Common complications in patients with RHD

* S.B.E: Subacute bacterial endocarditis

** C.H.F: Congestive heart failure

One patient with mixed mitral valve disease was admitted to the hospital with congestive heart failure and chronic renal failure and another one (30 years, female) was diagnosed as RHD with mixed mitral valve lesion plus thyrotoxicosis.

Discussion

This study included 53 patients, 60% of them were female. This fact of female predominance is similar to what was mentioned in some studies from south Asia, the Middle East and North Africa⁵. Girls and women, in particular, seem to be severely affected possibly as a result of being housebound and having to live in overcrowded conditions⁶. The majority of patients belonged to the age group 16-40 years. This can be explained by the fact that the first attack of rheumatic fever usually occurs at the age of 5 to 15 years and more than 50 % of those who suffer from acute rheumatic fever with carditis will later (after 10 -20 years) develop chronic rheumatic valvular disease⁷.

The majority of the patients included in the study was from low socioeconomic classes and came from rural areas. These findings are in keeping with observations of others, that overcrowding, poor hygiene and lack of access to medical services are all important risk factors and commonly encountered in rural areas^{8,9}. Interestingly, none of our patients belonged to

nomads. Nomads live in good aerated huts and no significant crowdedness; therefore they are unlikely to be susceptible to rheumatic fever.

Isolated mitral valve stenosis was found in 8% of the patients, which was lower than the 25% that was reported elsewhere. However, 17% of our patients had predominant mitral valve regurgitation, while 40% had mixed mitral valve lesions and these findings were similar to what was mentioned in the literature⁷.

The common presenting symptoms were those of RHD complications like congestive heart failure and atrial fibrillation. Cough and shortness of breathing were the leading presenting complaints (79% and 75% respectively). This is similar to reports from Nigeria¹⁶.

Congestive heart failure was the commonest complication among patients admitted to hospital (36%). It has been mentioned that the incidence of heart failure is found to be lower in patients with RHD who had chemoprophylaxis¹⁵. None of our patient had chemoprophylactic treatment and this could explain the high incidence of heart failure. Subacute bacterial endocarditis (SBE) was diagnosed in 17(32%) patients on clinical rather than Duke's criteria because of technical difficulties¹². None of these patients had a preceding dental or other procedure. This goes with the literature since the common cause of SBE are commensals in the upper respiratory tract and may enter the blood stream on chewing or teeth-brushing¹¹.

Conclusion

Rheumatic heart disease is still a health problem in rural areas. Most patients belong to low socioeconomic classes. Majority of patients came late with complications more commonly congestive heart failure and subacute bacterial endocarditis. Most of the patients are candidates for surgical intervention e.g valve replacement but few can afford the cost. Encouragement of education and provision of health services will lead to prevention or decrease of throat infection and hence avoidance of complications.

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