

WORLD CONGRESS ON RHEUMATIC HEART DISEASE

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Title: TREATING ADVANCED RHEUMATIC HEART DISEASE: THE FIFTEEN-YEAR EXPERIENCE OF SALAM CENTRE FOR CARDIAC SURGERY (KHARTOUM, SUDAN)

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Background & Aims: Rheumatic heart disease (RHD) is an eradicable non-communicable disease, which remains endemic in Sub-Saharan Africa. It is recognized that RHD constitutes a high burden of mortality, mainly related to severe valve disease and congestive heart failure. Paucity of prevention and early recognition of this disease makes open-heart surgery the only treatment option. However, as availability and access to open-heart surgery and cardiologic care is limited in the Region, this need is largely unmet. The Salam Centre for Cardiac Surgery in Sudan proposed a regional model to offer free access to safe surgery and guarantee life-long post-operative treatment for severe RHD.

Methods: In 2007, EMERGENCY NGO, in collaboration with the Sudanese Government, opened the Salam Centre for Cardiac Surgery in Khartoum - currently active despite the ongoing conflict. The Centre provides free surgery and follow-up to patients with RHD and Congenital Heart Disease. The Salam Centre is connected through its Regional Programme to a network of healthcare facilities across Africa and beyond in which EMERGENCY's cardiologists perform screening, referral, and follow-up checks for patients. The Centre is officially recognized as a training centre for the specialization programmes in cardiac surgery, anaesthesiology and cardiology.

In this retrospective cohort study, we report on all consecutive patients treated for RHD at Salam Centre from April 2007 to April 2022. Descriptive data were reported as frequencies and percentages, median with IQR, mean with SD, depending on the data format and distribution. Mortality is presented as early perioperative mortality (in-hospital or within 30 days from operation).

Results: From April 2007 to April 2022, the Salam Centre provided free cardiac surgery to 9, 319 patients, 81.4% of whom suffered from RHD. The RHD cohort (n=7, 582) had a median age at surgery of 22 years (IQR 16-35), 55.2% were female, and a median BMI of 17 (IQR 14.5-19.9). The majority of the operated patients were Sudanese (82.1%), but 17.9% were referred from 22 African countries by the Regional Programme. Despite being a centre devoted to elective patients, 8.0% were operated in urgency. Half of the patients (51.2%) were operated on isolated valve, while 3697 patients (48.8%) had multiple valves surgery. Mitral valve (MV) was the most affected valve (operated in 89.8% of patients), followed by aortic valve (AV, 39.9%) and tricuspid valve (TV, 29.0%). Of the 6807 patients who underwent MV surgery, 850 (12.5%) underwent MV repair, 59.5% of which with a ring, while 5957 (87.5%) underwent MV replacement with a mechanical (95.2%) or biological valve (4.8%). Considering the 3029 patients who underwent AV surgery, only 1.5% underwent AV repair, while 94.4% underwent mechanical AV replacement and 4.1% bioprosthetic AV replacement. Most patients who underwent TV surgery (2195 patients) had TV repair (99.5%), 43.2% of which using the De Vega technique, while only 0.5% had a TV replacement. Early perioperative mortality was 2.5%. Reoperations at any time were necessary for 5.6% of the patients, with post-reoperation mortality of 5.4%. Operated RHD patients had a median follow-up duration of 67 months (IQR 28-118).

Conclusions: EMERGENCY NGO established a Centre for cardiac surgery in 2007 to provide free, high-quality cardiac surgery to patients from Sudan and neighbouring countries. The long-running activity and the results achieved by the Salam Centre testify that providing an accessible and qualified response to this unmet need is attainable. Evidence is given on the feasibility of guaranteeing post-operative continuity of care, even behind borders. This experience calls for establishing additional cardiac centres that can offer access to treatment while training cardiac practitioners, as the Addis Ababa CommuniquÃ© also recommends.