

## **Pediatric Open Heart Surgery in Emerging Countries: A 10-year Experience at the Maputo Heart Institute, Mozambique**

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### **Background**

The Chain of hope acts since 1988 to free operate African, Asian and Middle East children with heart diseases. This study aimed to assess the feasibility and results of a 10-year open-heart surgery program at the Maputo Heart Institute, Mozambique.

### **Methods and Results**

Data of all consecutive patients with history of at least one heart surgery performed at the Maputo Heart Institute between Jan. 2001 and Dec. 2011 were opening were analyzed, in regard peri-operative (in-hospital) as well as long-term follow-up. Overall, 891 operations were performed in 776 patients, including 93% performed exclusively by one of the 7 international teams and 7% by Mozambican surgeons alone. The mean follow-up was 2.7+/- 2.8 years (1 month - 11 years). The mean age of patients was 15+/-16 years, with almost one third of patients living at more than 1000km from the heart institute. In 86%, the Maputo Heart Institute offered surgery for free, whereas 14% paid specific price (adults with comfortable incomes). Principal indications of surgery was congenital heart disease in 47% (14.1% of ventricular septal defect, 13.4% of tetralogies of Fallot, 5.8% of atrial septal defect, 5.3% of ductus arteriosus and 7.4% of more complex congenital heart diseases), rheumatic heart disease in 33%, endomyocardial fibrosis in 8%. Mean hospital stay was 8 days+/-12 days. Peri-operative mortality rate was 5.9%, with significant difference between indications: 6.6% for congenital heart diseases, 2.3% for RHD and 6.8% for EMF (P=0.02). After hospital discharge (do not consider here those who died in hospital), the mortality rate at one year was 2.1%. Among patients with mechanical prostheses, the mortality associated with the prosthesis was high (18.3%). More than half of patients were lost of follow-up at 3-year, and prevention of rheumatic heart disease non optimal for many children...

### **Conclusion**

Our findings suggest the feasibility of such a program, with development of local competences and finally the set-up of an independent surgical team with effective intensive care unit. However, our results also emphasize some weaknesses, especially the issue of follow-up of patients who would benefited the most of long-term preventive measures.