

## **INTERNATIONAL COLLABORATION IN THE CONGENITAL HEART DISEASE TREATMENT**

### **Međunarodna saradnja u liječenju urođenih anomalija srca**

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#### *Short report*

In the time of powerful cardiac surgery and cardiac catheterization intervention for congenital heart disease in the developed world, some European countries do not have adequate services for the care of children with cardiac disease. In 2003 a paediatric cardiologist from Bosnia published the article »Epidemiological and clinical aspects of congenital heart disease in children in Tuzla Canton«, observing that of all 39699 live-born children in a 6-year period, 243 children were found to have congenital heart disease. Cardiac surgery was indicated in 98 patients (40.3%) but could only be carried out in 42 (42.8%). A total of 63 patients died, 54 of whom within the 1st month of life (1). In this paper and in the editorial comment which followed, we recognized a request for help (2).

In an effort to help alleviate the lack of an adequate paediatric cardiac surgical service that existed in Bosnia and Herzegovina, the Cosmohelp (onlus Foundation)

with the Cardiology department, Ospedale per gli Infermi, Faenza and Paediatric Cardiology and Adult Congenital Unit, the University of Bologna started a project of Humanitarian assistance. We are presenting the results of paediatric cardiac surgical missions sponsored by humanitarian foundations and the Italian government that were conducted from April 2004 to April 2006.

Thanks to this model of assistance, in 2-year period, we obtained treatment for 14 children diagnosed in the Paediatric Clinic University Clinical Centre Tuzla, seven boys and seven girls, the youngest was a 32 day old infant.

Eleven out of fourteen (78,6 %) children required urgent cardiac surgery treatment. Eight children had clinical features of congestive heart failure and the signs of pulmonary hypertension were present in six patients. Twelve children underwent cardiac surgical procedures and two children received percutaneous procedures (atrial septal defect closure and stent implantation for aortic coarctation).

**Table 1** *Type of lesion, type cardiac surgery or interventional procedure and post surgical follow-up***Tabela 1** *Tip lezije, tip kardiohirurške ili interventne procedure i posthirurško praćenje*

Lesion	N	Cardiac surgical or interventional procedure	Post surgical follow-up	
			Health condition	Medical treatment
Tetralogy Fallot	2	Complete repair	Good	-
Aorto-pulmonary window	2	Aorto pulmonary patch	Good	-
Atrial septal defect	1	Direct atrial septal closure	Good	-
	1	Percutaneous defect closure	Good	-
Coarctation of aorta	1	End to end anastomose	Good	Medication
	1	Percutaneous stent implantation	Good	Medication
Ventricular septal defect	1	Interventricular septal patch	Good	-
Single ventricle with l-transposition of great artery	1	Damus-Kaye-Stansel +Glenn shunt	Died	-
Total abnormal pulmonary vein return	1	Complete repair	Good	-
Transposition of great artery	1	Arterial switch	Good	Medication
Papillary fibroelastoma of mitral valve	1	Tumor excision end implantation of mitral valve	Good	Medication
Atrioventricular septal defect	1	Two patch complete repair	Good	-

Optimal surgical or interventional correction was performed in all children. Only one patient died in the postoperative period, secondary to pulmonary hypertension. The mean stay in Italy was about 30 days with an hospital period of 13,6 days, in order to check possible surgical complications, and to stabilize the patients. Follow-up was conducted at the Paediatric Clinic in Tuzla when the children returned from Italy. During the follow-up time period, from 4 to 28 months after surgery, all children were asymptomatic

and in good health. Four out of thirteen children are still in need of continuous medication treatment (Table 1).

We present 14 patients with congenital heart disease who had the opportunity to receive adequate surgical or interventional care thanks to this model of paediatric cardiac assistance. Our results show a survival rate of 13/14, in spite of the high percentage (78.6 %) of patients being admitted to the Paediatric Cardiology and Adult Congenital Unit, University of Bologna, with hemody-

dynamic instability. The mortality rate 1/14 or 7.1% is consistent with results of similar reports (3). The good health condition in postoperative follow-up for all surviving children suggests a good long-term outcome and good quality life into childhood and adulthood years. This was a first step to help in the care of children with congenital heart disease in the Tuzla Canton where it is a very significant health problem (1), and is still ongoing. The next step is to increase the volume of assistance by providing staff education, clinical services, and the development of

an organized paediatric cardiac surgical team in country.

Although similar models of humanitarian paediatric cardiac assistance in the world are well known (3, 4, 5) this paper deserved attention for two reasons. The first to show that one published paper can initiate a project of Humanitarian assistance. The second reason is to present good international professional and humanitarian collaboration in the care of children with congenital heart disease from diagnosis, transport, admission, and surgical treatment to postoperative follow-up.

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