

[CCAS-10] DETERMINATION OF A THROMBOELASTOGRAPHIC PROFILE IN PATIENTS UNDERGOING CONGENITAL CARDIAC SURGERY.

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Conventional coagulation essays have certain limitations for intraoperative bleeding monitoring of patients undergoing congenital heart surgery 1-2

Thromboelastography (TE) is an alternative useful in non-cardiac surgical procedures such as liver transplant, which is associated with several bleeding disorders; nevertheless, only few studies analyze it's role in pediatric cardiac surgery 3

We studied the thromboelastographic (TEG) profile of 27 patients undergoing pediatric cardiac surgery in a 10 month period from July 2012 to April 2013, at the Cardiovascular Surgery Division of the National Institute of Pediatrics, Mexico.

A TGE determination was performed in two moments for every patient : Basal (sample obtained as soon as the central catheter was installed) and rewarming (at 32°C after the administration of 150 ml of plasma on pump)

59.3% of the population were females and 40.7% were males with a range of age of 0-17 years (mean 4.9) 25.9% of the patients were RACHS-1 classification 3, 11.1 were RACHS-1 classification 4 and 7.4% RACHS-1 classification 5.

The most common surgical procedures were partial anomalous venous drainage (18.5%) and pulmonary artery and tricuspid valve anomalies (pulmonary stenosis, pulmonary atresia, tricuspid atresia) (14.8%)

Main results of the TGE parameters are shown in Table 1.

40.7% of the patients had a TEG basal reaction time (R) increased. In the rewarming period, 66.6% of the population had some modification on the TEG normal parameters; 22.2% showed prolonged R value (clotting factors deficiency) and 44.4% had low MA values (low platelet count or function)

We conclude that TE is a very valuable monitoring technique for blood coagulation surveillance of patients undergoing cardiac surgery in pediatric population allowing anticipatory measures for bleeding control.

References.

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Table 1. Thromboelastographic parameters comparison between basal and rewarming periods.

PARAMETER	MEAN	N	SD	p
R basal	8.9	27	3.5	0.35
R rewarming	8.0	27	1.9	
K basal	2.7	25	1.7	0.002
K rewarming	5.4	25	3.3	
Angle basal	64.2	27	11.8	0.009
Angle rewarming	55.1	27	8.9	
MA basal	66.6	27	8.2	0.0001
MA rewarming	44.3	27	12.7	
CI basal	-1.2	25	4.0	0.002
CI rewarming	-5.1	25	3.1	

Abbreviations: R = Reaction Time, K = Coagulation Time, MA = Maximum Amplitude, CI = Coagulation Index