



## CARDIAC SURGERY EMERGENCIES IN NEW-BORNS

Naghița Varvara, Cheptanaru Eduard, Ciubotaru Anatol

Cardiac Surgery Department of Congenital Heart Defects, State University of Medicine and Pharmacy “Nicolae Testemițanu”

**Introduction** The incidence of congenital heart diseases is reported in 7-9/1000 live birth with 1/5 of these cases being considered critical conditions for new-borns. Recognition and management of cardiac emergencies in new-borns are essential to increase their survival.

**Purpose** Highlighting the most common causes of cardiac emergencies in new-borns and marking the most common used management strategies for children with these conditions.

**Material and methods** Retrospective analysis of 74 patients treated in cardiac surgery department of RCH “Timofei Moșneaga” during the years 2010 - 2020.

**Results** Total 74 patients ♀ 21:53 ♂

Average age: 12 days ( 1 day – 28 days after birth)

Average gestation period: 38 weeks (min 26 weeks – max 41weeks)

Average weight at birth: 3,2 kg ( min 900 gr – max 4,5 kg)

Average height at birth: 50,5 cm ( min 40 cm – max 56 cm)

**Table 1. Hospitalization diagnoses**

<b>Ductal – dependent CHD  N= 50</b>	<b>Pulmonary artery atresia</b>	<b>15</b>
	<b>Pulmonary artery stenosis</b>	<b>6</b>
	<b>--- isolated pulmonary artery stenosis</b>	<b>3</b>
	<b>---pulmonary artery stenosis in Tetralogy of Fallot</b>	<b>3</b>
	<b>Coarctation of the aorta</b>	<b>18</b>
	<b>Interrupted aortic arch</b>	<b>2</b>
	<b>Single ventricle</b>	<b>9</b>
<b>Ductal – independent CHD  N = 22</b>	<b>--- Mitral valve atresia</b>	<b>5</b>
	<b>---Tricuspid valve atresia</b>	<b>4</b>
	<b>Transposition of the great arteries</b>	<b>16</b>
	<b>Large patent ductus arteriosus</b>	<b>4</b>
	<b>Total anomalous pulmonary venous return</b>	<b>2</b>
	<b>Triatrial heart</b>	<b>1</b>
	<b>Mediastinal teratoma</b>	<b>1</b>

**Conclusions** Cardiac surgeries in new-borns are largely represented by ductal-dependent malformations, who’s diagnosis, drug treatment and surgical correction must be as fast as possible to save the child's life.

**Keywords** congenital heart diseases, emergencies, new-borns

**Sternotomy - 33; Toracotomy – 41**

**Table 2. Correlation between surgeries and survival**

Surgery description		Number of patients who survived	
<b>Surgeries with extracorporeal circulation (N = 23)</b>	Arterial switch	14	6
	Atrial septostomy	5	2
	Interrupted aortic arch correction	2	1
	Triatrial heart correction	1	1
	Norwood surgery	1	0
<b>Surgeries without extracorporeal circulation (N = 51)</b>	Central aortopulmonary shunt	10	3
	Toracotomy:	41	36
	--Coarctation resection with end to end anastomosis	18	16
	-- Lateral aortopulmonary shunt	23	20

**Table 3. Description of postoperative complications**

Early postoperative complications	Number of patients who survived		
Wound dehiscence	4	3	PA atresia– 2, PA stenosis-1, TGA -1
Aortopulmonary shunt thrombosis	3	1	Single left ventricle - 1, AP atresia – 1
Postoperative bleeding	6	0	AP atresia– 2, TGA – 2, TAPVR -1, Interrupted aortic arch - 1
Septic pneumonia	38	30	
MODS	13	3	TGA – 6, AP atresia– 5, Interrupted aortic arch – 1, Single left ventricle– 1.
Pulmonary edema	1	0	TGA
Pleuresia+ascitis	17	14	AP atresia– 13, AP stenosis -4