



COMPARATIVE ANALYSIS OF ECHOCARDIOGRAPHIC INDICATORS OF HEALTHY AND BABIES BORN WITH CONGENITAL HEART DEFECTS IN THE EARLY NEONATAL PERIOD

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Abstract: *The presented scientific work presents a comparative analysis of echocardiographic parameters in healthy babies and babies born with congenital heart defects.*

Key words: *congenital heart defect, EXOKG examination, white defects, blue defects.*

Relevance of the topic

Reducing infant mortality in the world is one of the important tasks of the health care system at the state level. In recent years, the rate of births with congenital heart defects among children has been increasing. Currently, congenital heart disease is distinguished by its high prevalence and high mortality compared to other developmental defects in children. In medicine, cardiovascular diseases are one of the main causes of disability and death [1,5].

According to the World Health Organization (WHO), 56% of all deaths are caused by cardiovascular diseases. Cardiovascular diseases cause 4.3 million (48%) deaths per year in European countries. The rate of birth with congenital heart defect in America from the Nordic countries is 8.2/1000 live births [4,6].

Among CHD, ventricular septal defect is the most common, and in the general structure there are children with isolated VHD in 20% of cases. About 90% of small, hemodynamically insignificant muscle defects have been identified to close spontaneously by the age of 10 months. In terms of size, VHD can be small (up to 4 mm) and wide. In 30 - 50% of cases, VHD is complicated by the development of high pulmonary hypertension (PH), which is progressive. This pressure in the pulmonary artery is independent of the diameter of the patent arterial passage [3,7,2].

The purpose of the study. Comparative analysis of echocardiographic indicators in babies born with congenital and congenital heart defects in Bukhara region.

Research materials and methods

In this paper, an analysis of echocardiographic examination of healthy and congenital heart defects in Bukhara region is presented. For the purpose of investigation, 48 healthy children and 23 children born with congenital heart defects were conducted.

Research results

In infants, the width of the aorta varies from 7.1 to 11.3 mm, the average is 9.7 ± 0.29 mm, the width of the left ventricle is from 9.1 to 12.0 mm, the average is 10.4 ± 0.20 mm. In infants, the thickness of the wall of the right ventricle varies from 6.1 to 12.2 mm, the average is 9.5 ± 0.42 mm, the thickness of the interventricular septal wall varies from 2.6 to 5.4 mm, the average is 4.0 ± 0.19 mm, end-diastolic size from 7.0 to 12.0 mm, average 9.6 ± 0.35 mm, left ventricular posterior wall thickness varies from 5.0 mm to 9.0 mm, average - 7.0 ± 0.28 mm, end systolic size from 3.0 to 6.4 mm up to 4.6 ± 0.23 mm on average.

In children of the same age, the ejection fraction of the heart varies from 54.3 to 75.0%, the average is $62.0 \pm 1.44\%$, the end diastolic volume is from 2.5 to 6.5 ml, the average is 4.4 ± 0.28 ml, the end-systolic volume varied from 1.40 ml to 2.0 ml, average - 1.62 ± 0.04 ml, stroke volume varied from 5.2 ml to 8.8 ml, it was found that the average was -7.2 ± 0.25 ml.

In infants, the number of heart contractions varies from 66.0 to 138.0, the average is 108 ± 5.04 , the blood circulation speed in the pulmonary artery is from 1.15 to 1.86 m/s, the average is 1.40 ± 0.04 m/s, and the speed of blood circulation in the mitral valve is 0.62 to 1.40 m/s varies up to m/s, average - 1.0 ± 0.05 m/s, blood circulation in the tricuspid valve varies from 0.70 to 1.30 m/s, the average is -1.0 ± 0.04 m/s, in healthy children of the same age, blood circulation in the aorta is from 1.0 to 1.58 m/s, on average - 1.30 ± 0.04 m/s, the width of the base of the lung stem is from 6.4 to 12.0 mm, the average was 9.6 ± 0.39 mm.



In babies born with congenital heart defects, the width of the aorta varies from 10.0 to 14.0 mm, the average is 11.3 ± 0.36 mm, the width of the left ventricle is from 11.0 to 13.0 mm, the average is 11. It is 7 ± 0.18 mm. In boys born with congenital heart defects, the thickness of the wall of the right ventricle varies from 9.6 to 11.5 mm, on average - 10.6 ± 0.17 mm, the thickness of the interventricular septal wall varied from 5.0 to 6.0 mm, with an average of -5.4 ± 0.09 mm, and the end-diastolic size was from 12.0 to 14.0 mm, with an average of 13.0 ± 0.18 mm, the width of the posterior wall of the left ventricle varies from 4.0 mm to 5.0 mm, the average - It was 4.5 ± 0.09 mm, the last systolic size was from 6.0 to 10.0 mm, and the average was 7.5 ± 0.36 mm.

In children of this age, the ejection fraction of the heart varies from 75 to 89.0%, the average is $82.6 \pm 1.28\%$, the end diastolic volume is from 4.0 to 8.0 ml, the average is 5.5 ± 0.36 ml, the final systolic volume varies from 1.0 ml to 4.0 ml, the average - 2.4 ± 0.27 ml, the stroke volume varied from 3.0 ml to 5.0 ml, and the average was -3.9 ± 0.18 ml.

In infants, the number of heart contractions varies from 130.0 to 156.0, the average is 143 ± 2.39 , the blood circulation speed in the pulmonary artery is from 1.88 to 3.0 m/s, the average is 2.33 ± 0.10 m/s, and the speed of blood circulation in the mitral valve is 1.40 to 1.07 m/s varies up to m/s, average - 1.24 ± 0.03 m/s, blood circulation in the tricuspid valve varies from 0.97 to 1.09 m/s, on average - 1.01 ± 0.01 m/s, blood circulation in the aorta in children of the same age ranges from 1.13 to 1.88 m/s, average - 1.49 ± 0.06 m/s, width of the base of the pulmonary trunk from 6.0 to 9.0 mm, average - was 6.8 ± 0.27 mm.

Summary

The results of our research showed that the analysis of echocardiographic indicators of healthy and children born with various forms of congenital heart defects proved that the echocardiographic indicators of children born with congenital heart defects were greater than the echocardiographic results of healthy children. This shows that children with congenital heart defects have an enlarged heart.

**Literature**

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