



DETECTION OF ANTHROPOMETRIC CHANGES IN CHILDREN BORN WITH CONGENITAL HEART DEFECTS (0-1 YEARS)

Saidova Sadoqat Yuldashevna

Bukhara State Medical Institute

✓ *Resume*

This paper compares the features of physical development and echocardiographic changes in the heart (ECHO) in children under 1 year of age. The results of the study show that newborns and healthy children born with congenital heart defects under the age of 1 year are significantly behind in terms of physical development (height, body weight, chest circumference, abdomen circumference, head circumference, arm and leg length) and discovered by EXOKG

Key words: heart, EXOKG examination, anthropometric indicators.

ВЫЯВЛЕНИЕ АНТРОПОМЕТРИЧЕСКИХ ИЗМЕНЕНИЙ У ДЕТЕЙ, РОЖДЕННЫХ С ВРОЖДЕННЫМИ ПОРОКАМИ СЕРДЦА (0-1 ГОДА)

Саидова С.Ю.

Бухарского государственного медицинского института

✓ *Резюме*

В данной работе сравниваются особенности физического развития и эхокардиографические изменения сердца (ЭКГОКГ) у детей до 1 года. Результаты исследования показывают, что новорожденные и здоровые дети, рожденные с врожденными пороками сердца в возрасте до 1 года, значительно отстают по показателям физического развития (рост, масса тела, окружность грудной клетки, окружность живота, окружность головы, длина рук и ног) и обнаружен EXOKG.

Ключевые слова: сердце, обследование EXOKG, антропометрические показатели.

ТУҒМА ЮРАК НУҚСОНЛАРИ БИЛАН ТУҒИЛГАН 1 ЁШГАЧА) БОЛАЛАРДА АНТРОПОМЕТРИК ЎЗГАРИШЛАРНИ ЎРГАНИШ

Саидова С.Ю.

Бухоро давлат тиббиёт институти

✓ *Резюме*

Ушбу мақолада янги туғилгандан 1 ёшгача бўлган болаларда жисмоний ривожланиш ва юракнинг эхокардиографик (ЭХОКГ) ўзгаришларни қийсий хусусиятлари келтирилган. Тадқиқот натижалари янги туғилган чақалоқлар ва 1 ёшгача бўлган туғма юрак нуқсони билан туғилган ва соғлом болалар жисмоний ривожланиш кўрсаткичлари (бўй, вазни, кўкрак қафаси айланаси, қорин айланаси, бош айланаси, қўл ва оёқ узунлиги) ўлчовлари ва ЭХОКГ кўрсаткичлари бўйича сезиларли даражада орқада қолиши аниқланди.

Калит сўзлар: юрак, ЭХОКГ текиширув, антропометрик кўрсаткичлар.

Relevance

CHD is the most common heart disease in children. Congenital malformations (CM) are an actual and still solved problem of modern medical science. The birth rate of children with heart defects according to O. A. Mutafyan (2005) in Uzbekistan is from 3.2 to 8.0 per 1000 newborns and tends to increase. Congenital heart defects (CHDs) account for almost one-third of all major congenital

anomalies and affect more than 1 million newborns worldwide each year. Previous studies have reported that nearly half of infants with CHD are stunted and 15% of patients suffer from moderate to severe malnutrition [2,3].

The physical development of children is a unique indicator of the health of the population, on which it is possible to trace both epoch-making changes in the biological nature of a person and relatively short-term effects on the population. Physical development can serve as a criterion for assessing the environmental situation, and physical development standards are the most important element of population monitoring of the health of children and adolescents [1,5,7].

Anthropometric parameters and body composition are important indicators of personality growth. These indicators depend on age, gender, nutrition, ethnicity and lifestyle. Children with a delay in the rate of physical development at an early age are also likely to have problems at an older age, including deviation from the norms of weight and growth indicators, a decrease in cognitive abilities, attention, and general emotional and social development [4,6].

Purpose of the study: To study anthropometric parameters and comparative characteristics of echocardiographic changes in the heart in children born with congenital heart defects (0-1 years).

Material and methods

The study was conducted on the basis of the Bukhara Regional Multidisciplinary Children's Hospital. It was carried out on the basis of bilateral agreements of the Bukhara State Medical Institute. The children were divided into 2 groups: a group of healthy children aged 0-1 years (n = 25); The results of examination of a group of sick children aged 0-1 years (n = 25) were studied. For carrying out anthropometric measurements, the methodology of anthropometric research of children was used (Methodological recommendations on morphometric features of assessing the physical development of children and adolescents // N.Kh. Shomirzaev, S.A. Ten and I. Tukhtanazarova, 1998). Anthropometric studies included measurements of height, body weight, body length and chest circumference. An echocardiographic study obtained the results of ultrasound of the anatomy of the heart.

The study was carried out on the SONOACE R3-RUS instrument with linear (7.5 MHz) and convex (3.5 MHz) transducers. In this study, the linear dimensions of each part of the heart, the thickness and volume of the heart were studied according to the formula of J. Brunn et al. (1981): $V = K \cdot [(L1 \cdot W1 \cdot T1) + (L2 \cdot W2 \cdot T2)]$, where V is the gland volume index (cm³), K is a coefficient equal to 0.479; L, W, T - length, width and thickness of each piece of fabric. Mathematical processing was performed directly from the common reference matrix Excel 7.0 using the capabilities of STTGRAPH 5.1, the standard deviation and representativeness errors were identified.

Result and discussion

Studies have shown that healthy children from birth to 1 year have a height of 60.1 cm to 77.5 cm, an average of 67.1 ± 0.9 cm, and children with heart defects have a height of 50.1 cm to 66, 0 cm. The mean value was 64.2 ± 0.5 .

Healthy children from birth to 1 year weigh from 3.4 to 7.2 kg, on average 5.1 ± 0.9 kg, sick children from birth to 1 year weigh from 2.8 to 5.2 kg, on average 4.5 ± 0.3 kg.

In healthy children from birth to 1 year, chest circumference ranged from 38.1 cm to 45.5 cm with an average of 40.2 ± 0.6 cm, and in children with heart defects, chest circumference ranged from 36.1 cm to 45.0 cm, on average 38.5 ± 0.1 cm. Abdominal circumference ranged from 38.1 cm to 46.1 cm in healthy children under the age of 1 year, on average 39.0 ± 0.4 cm, and in children with heart defects, the mean circumference ranged from 36.8 cm to 45.0 cm, with an average of 37.2 ± 0.8 cm. Healthy children from birth to 1 year have a head circumference of 40.1 to 46.1 cm, on average 45.0 ± 0.5 cm, and children with heart defects have a head circumference of 38.8 cm to 41.0 cm, on average 42.0 ± 0.5 cm. In healthy children from birth to 1 year, the length of the arm ranged from 17.1 cm to 30.1 cm with an average of 29.0 ± 0.7 cm, and in children with heart defects, the length shoulder ranged from 16.8 cm to 28.8 cm, on average 27.5 ± 0.7 cm. In healthy children from birth to 1 year, the length of the legs ranged from 29.1 cm to 39.1 cm, on average 37.7 ± 0.9 cm, and in children with heart defects, the length of the legs ranged from 27.8 to 38.0 cm on average 35.7 ± 0.2

Table 1**Indicators of physical development of children under 1 year old in the study**

№	Indicators	Children 0-1 years old (n = 50)	
		Children 0-1 years old (healthy children)	Children 0-1 years old (children with heart defects)
1	Height, cm	67,1 ± 0,9	64,2± 0,5
2	Body weight, kg	5,1 ± 0,9	4,5± 0,3
3	Chest circumference, cm	40,2± 0,6	38,5± 0,1
4	Abdominal circumference, cm	39,0 ± 0,4	37,2± 0,8
5	Head circumference, cm	45,0±0,5	42,0± 0,9
6	Arm length, cm	29,1±0,7	27,5± 0,7
7	Leg length, cm	37,7±0,9	35,7± 0,2

Note: * - level of significance $p \leq 0.05$ compared to the previous group

Anthropometric studies of healthy young children from birth to 1 year and children born with heart defects showed that all anthropometric indicators were significantly higher in healthy children. The results of an echocardiographic study were unreliable in healthy children aged 0–1 years and in children born at this age with congenital heart defects.

Conclusions

Anthropometric results of healthy children in anthropometric measurements carried out in healthy children from birth to 1 year old and children with congenital heart defects are based on anthropometric indicators of sick children (height, body weight, chest circumference, abdominal circumference, head circumference, arm length, leg length) was high. An echocardiographic study revealed minor changes in healthy children from birth to 1 year and in sick children of the same age (width of the aorta, width of the pulmonary artery).

LIST OF REFERENCES:

1. Ismatova M.I. Assessment of the physical condition of preschool girls involved in rhythmic gymnastics, according to anthropometric indicators // New Day in Medicine 3(35)2021 282-231 <https://cutt.ly/rEjbPkI>
2. Наврузова Ш.И., Ахмедов А.Т., Хикматова Ш.У. Врожденные пороки сердца у детей и коморбидность. Сборник тезисов научно - практической конференции с международным участием «Актуальные вопросы социально - значимых заболеваний». Бухара, 2019.
3. Наврузова Ш.И., Саъдуллоева И.К. Состояние иммунитета и нейрогуморальной регуляции при врожденных пороках сердца у детей //Материалы 3-международной научной конференции «Scientific achievements of the third millennium» Journal. Сан-Франциско, 2016. С. 31-34.
4. Тешаев Ш.Ж., Исмадова М.И. Сравнительная характеристика антропометрических параметров девочек I-II периода детства, занимающихся художественной гимнастикой // Проблемы биологии и медицине. – 2019. - №3 (111). - С. 278-281.
5. Тешаев Ш.Ж., Исмадова М.И., Рустамова Н.Б. Сравнительная характеристика антропометрических показателей спортсменок, занимающихся художественной гимнастикой // Новый день в медицине. – 2020. - № 2/1 (30/1). - С. 98-100.
6. Ismatova M.I., Teshayev Sh.J., Khasanova D.A. Anthropometric changes in specificity in girls engaged in rhythmic gymnastics //The American journal of social science and education innovations. - vol. 02. Issue 10. - 2020. – P. 59-64.
7. M.I.Ismatova, D.A.Hasanova, S.Y.Saidova, N.B. Rustamova Physical development of girls engaged in rhythmic gymnastics // American Journal of Medicine and Medical Sciences. - 2021. - 11(4). - P. 297-300.

Entered 09.05.2022