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L.K. Rakhmanova, I.A. Karimdjanov,
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CLINICAL CARDIOLOGY OF PEDIATRICS

Educational manual

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MINISTRY OF HEALTH CARE OF THE REPUBLIC OF UZBEKISTAN TASHKENT MEDICAL ACADEMY

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The Educational guide contains modern information about the epidemiology, etiology, pathogenesis of diseases of the cardiovascular system in children. The results of literature sources, personal research and observations of the authors are summarized. Based on this, the diagnostic criteria were formed, the principles of comparative diagnosis and treatment of children's cardiology diseases at the inpatient and primary level were presented from the point of view of evidence-based medicine. The authors presented the standards of examination and treatment of the most common heart and vascular diseases. The book is intended for advanced students of a higher medical educational institution and consists of 28 figures,12 tables and has been used 13 of literature sources.

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INTRODUCTION

It is known that cardiovascular diseases are the leading cause of disability and death on the planet, claiming the lives of more than 17 million people every year. Today, the United Nations and the World Health Organization recognize these diseases as a general medical and social problem, rather than a narrow specialty. Many studies conducted around the world today confirm that risk factors for cardiovascular disease are formed in childhood. In this regard, it is primarily necessary to know the anatomical and physiological features of the cardiovascular system in children. Because the circulatory system and its organs are constantly changing anatomically and functionally from the prenatal period to adolescence.

Early diagnosis of genetic diseases of the cardiovascular system in children remains one of the pressing problems of modern medicine. Congenital heart defects are multifactorial diseases in 90% of cases. Including 5% of cases, the disease is caused by chromosomal abnormalities, and in 3.5% of cases, a mutation of a single gene is detected. Cardiac arrhythmias in children occur at all ages, most often in older children, and the frequency of arrhythmias is increasing year by year.

Today, cardiovascular diseases remain one of the most pressing problems in Uzbekistan, as well as throughout the world. One of the main reasons for this is the lack of timely and early diagnosis and treatment of the disease, especially among children, and insufficient assessment of the factors that lead to its progression and development of chronic heart failure.

Improving the quality of medical services provided to mothers and children, organizing specialized and high-tech medical care for them, and implementing comprehensive measures to reduce maternal and child mortality are urgent issues in our country.

This textbook will serve to a certain extent in fulfilling these tasks.

CHAPTER I. CONGENITAL HEART DISEASES IN CHILDREN

In the European continent, the frequency of congenital heart disease (CHD) in newborns is 0.8% -1%. In Russia every year on average are born between 40 and 45 thousand children with CHD (Fig.1).

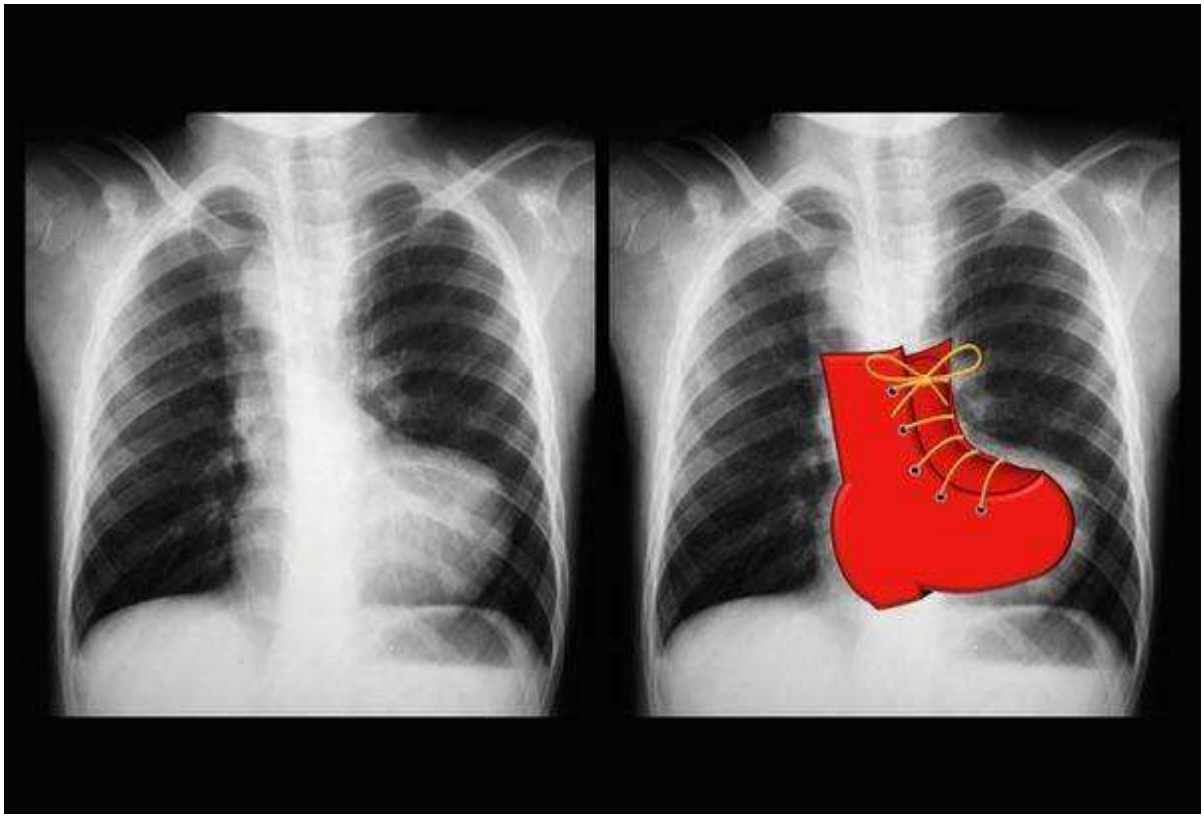

Fig.1. "Wooden shoe" symptom in tetralogy of Fallot (X-ray).

Etiology

CHD in 90% of cases relate to diseases with multifactorial inheritance. Adverse environmental factors are ionizing radiation, chemicals (acids, alcohols, salts, cyclic compounds, heavy metals, etc.), air pollution, water and soil mutagenic substances, drugs (quinacrine, chlorpromazine, folic acid antagonists, vincristine, bruneomitsin etc.).

In 5% of cases of CHD is part of a syndrome with multiple lesions of the organs and systems due to chromosomal abnormalities, and in 3.5% - a mutation of single genes. With these forms of CHD and family cases, you must examine the child and his family in the genetic center.

In CHD with multifactorial inheritance type chance of having a healthy baby the next in the family - 97%.

Risk factors for having a child with CHD: the age of the parents (mother older than 35 years old, his father over 45 years), occupational hazard, and (or)

Exography (ultrasound, ultrasound diagnostics) is a study that allows you to examine the patient's internal organs in two or three directions. In obstetrics, ultrasound diagnostics allows you to display the embryo on the screen and check its physical condition.

Doppler ultrasound is an ultrasound examination that works on the same principles as echography. They are often used together to determine the shape and function of blood vessels. That is, this work is designed to study the flow of blood in the veins and arteries of the vessels, to see if there are any disturbances in this flow associated with vasoconstriction. The signal comes in the form of a colored curve accompanied by sound. The color indicates the speed of blood flow.

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LIST OF ABBREVIATIONS

CBV- circulating blood volume
ESR - erythrocyte sedimentation rate
HD - hemodialysis
GFR - glomerular filtration rate
ICD - international classification of diseases
CNS - central nervous system
CHD - congenital heart disease
NH - nephrogenic hypertension
PDA - patent ductus arteriosus
PCR - polymerase chain reaction
BP - blood pressure
MEDA - minor external developmental anomalies
CHF - chronic heart failure
USE - ultrasound examination

TABLE OF CONTENTS

O‘ZBEKISTON RESPUBLIKASI
SOG‘LIQNI SAQLASH VAZIRLIGI
TOSHKENT TIBBIYOT AKADEMIYASI

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