



Early Diagnosis of DDH in Young Children in the Endemic Zone

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Abstract: This article is an analysis of methods of early diagnosis of hip dysplasia and also the detection of pathology by ultrasound for the period July-September 2022 in young children on the basis of the Samarkand regional children's multidisciplinary medical center.

Keywords: DDH, US, development hip disorder, ultrasound, sonography, children.

Relevance. Development disorder of the hip or DDH – it is a congenital disorder that leads to abnormal development of acetabulum with/without hip dislocation. congenital anomalies of the hip joint, such as immature joint, subluxation, partial or complete dislocation, are among the most widespread pathologies of the musculoskeletal system among infants and, according to various data, range from 2 to 15% among all newborns. Early diagnosis of this pathology is important, since there is a direct correlation between the time of initiation of treatment and its effectiveness. Thus, when pathology is detected in the early months of life, the effect of conservative treatment and full recovery ranges from 85 to 92%, with late detection (6 months or more), this indicator is already 50-60%. The neglected forms (from one year and older) have an extremely low indicator of the effectiveness of conservative treatment - about 10%. it should also be noted that the diagnosis of this pathology in young children has strict restrictions on the use of ionizing research methods (radiography, fluoroscopy, MSCT, etc.) due to the potential harm to the child's health. Based on all of the above, magnetic resonance imaging could serve as a good alternative. However, the high price, unavailability, the necessity for immobility of the child for 15-20 minutes makes MRI less attractive, although more sensitive method of research.

Research objective. To identify the pathology of the hip joint in young children using ultrasound.

Research methods. To achieve this goal and taking into account the advantages and disadvantages of all research methods, we chose ultrasound research. All patients were tested on a Toshiba XARIO 200 hip ultrasound machine with a 5-8 mHz linear transducer. To detect pathology on ultrasound, the method of TBS ultrasound was chosen according to the Graf. The Graf method for ultrasound classification system for developmental dysplasia of the hip (DDH) in infants, describes both alpha and beta angles. As a general rule, the α angle determines the type and the β angle determines the subtype. The angle is formed by the acetabular roof to the vertical cortex of the ilium and thus reflects the depth of the bony acetabular roof. This corresponds to 90° minus the acetabular angle.

Research materials. We have examined 300 children (162 boys and 138 girls) aged 1 to 6 months for hip dysplasia of various degrees of severity in the period July - September 2022 on the basis of the Samarkand regional children's multidisciplinary medical center.

Research results:

According to the results of the examination of 300 children, hip joint pathology was detected in 47 cases, which was 11.75%. We divided the children into several groups according to the following criteria: the severity of the pathology, the presence of pathology in one or both joints, as well as the gender of children. The division of children according to the severity of the DDH is made up:

Immature joint – 26(55.3%);

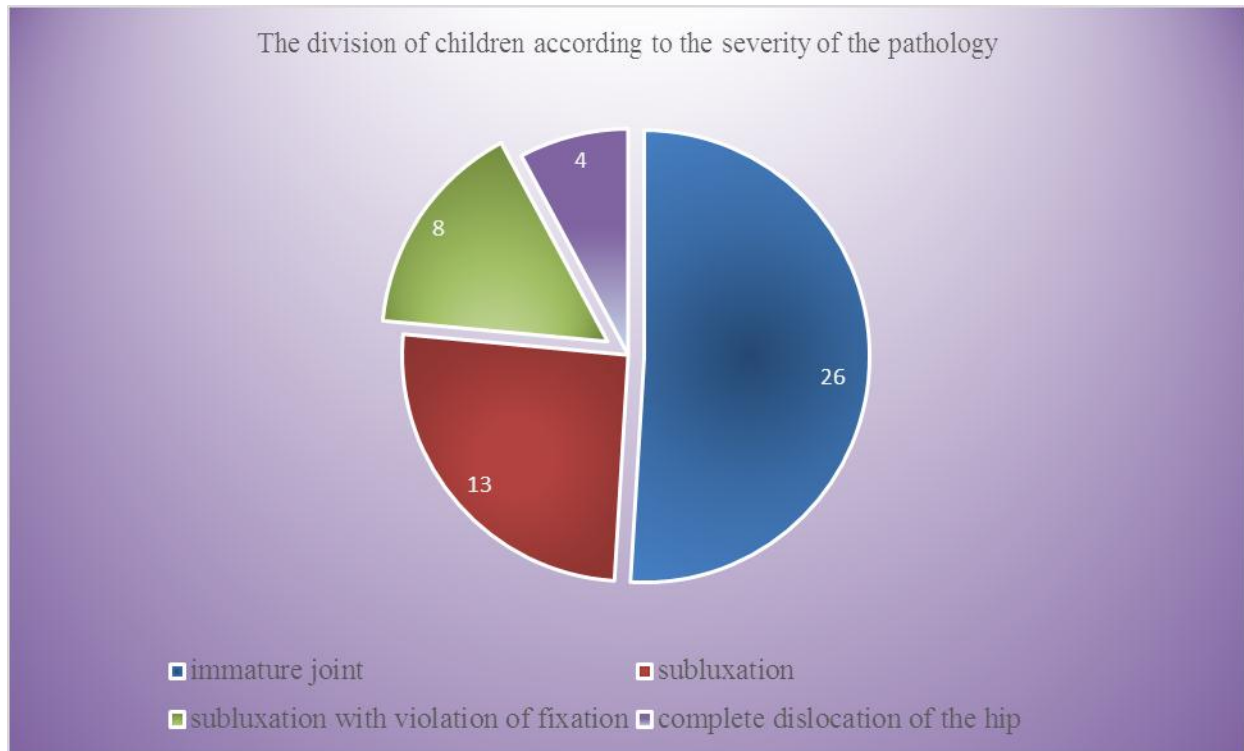
Subluxation – 13(27.6%);

Subluxation with violation of fixation – 8(17%);

Complete dislocation of the hip – 4(8.5%);

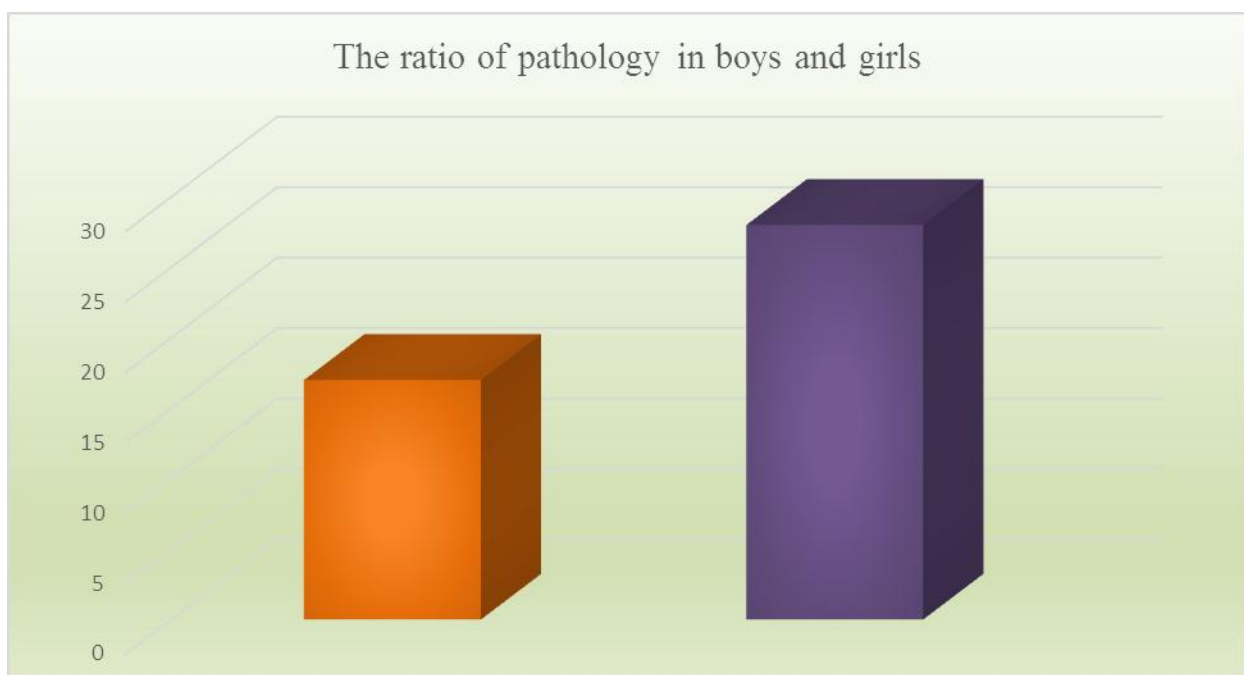
The relevant data is indicated in the diagram (Diagram 1).

Diagram 1.



The ratio of pathology in boys and girls was approximately 17 to 30 (36.2% and 63.8 % respectively) and the data are indicated in the diagram (Diagram 2).

Diagram 2.



The third point of the study found that the number of children with unilateral pathology was 34 (which was 72.3%), and bilateral 13 (27.7%). The data is shown in the table (Table 1)

Table 1.

Parameter	Unilateral pathology	Bilateral pathology
Absolute numbers	34	13
Percentage	73.3%	26.7%

Conclusions:

Based on the results of the study, the conclusions of our work are:

Ultrasound is the method of choice for diagnosing hip joint pathology due to its availability, cheapness, non-invasiveness, absence of harm to the baby and the convenience of conducting.

An ultrasound examination of the hip joints of 300 newborns under the age of 6 months was conducted on the basis of the Samarkand regional multi-profile children's medical center. DDH was detected in 47 cases.

Division of children according to the severity of the pathology: Immature joint – 26(55.3%); Subluxation – 13(27.6%); Subluxation with violation of fixation – 8(17%); Complete dislocation of the hip – 4(8.5%).

Among the identified cases of DDH the number of boys was 17(36.2%), and number of girl - 30(63.8 %).

Unilateral pathology was in 34(72.3%) cases, bilateral was 13(27.7%).

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