1. INTRODUCTION

The frequency of premature birth is between 5 and 10% of all labors and has increasing trend. Etiology of premature birth is in over 50% of cases unknown (1).

Developmental hip dysplasia is progressive disease in which secondary changes of structures of hip joint develop unless congruent articular bodies position is achieved. In Bosnia and Herzegovina the frequency of some of developmental hip dysplasia is the highest in whole Europe (Sweden 1.7; BiH 75 infants with developmental hip dysplasia to 1000 of live born infants) (2,3).

2. AIM OF PAPER

The aim of this paper is to point out the increase of prematurely born infants and their survival thanks to the development of Unit for Intensive Neonatal Care at the Pediatric Clinics in Sarajevo. Material and methods: Clinical investigation included 150 infants (77 girls and 73 boys) in whom the developmental hip dysplasia was diagnosed with clinical exam, ultrasound exam and x-ray of the hips. The exams were done in period of January 2012 to August 2014. Results: Two groups of patients were formed. The first one consisted of premature infants, total number of 75 (34 girls and 41 boys), with developmental hip dysplasia that was diagnosed at the first exam at the Ultrasound unit of the Pediatric clinics and at the Intensive Neonatal Care Unit of the Pediatric Clinics in Sarajevo. Second (control) group consisted of patients-on term infants who had diagnosed one of developmental hip dysplasia, total of 75 (43 girls and 32 boys) during first exam in the Ultrasound unit of the Pediatric clinics in Sarajevo. Conclusion: The frequency of premature birth is between 5 and 10% of all labors and demonstrates increasing trend. We suggest ultrasound examination of hips in each newborn, term or premature, at the age of 6 weeks after birth.

Key words: developmental hip dysplasia, ultrasound hip examination, premature infant
Diagnosis confirmed with ultrasound were treated with conservative therapy in all cases. Patients were cured in 80% of cases (the result of one patient is unknown) in Group I, and 100% in Group II (Figure 1.).

Table 4. Frequency of developmental hip dysplasia affecting one or both hips

<table>
<thead>
<tr>
<th></th>
<th>Left hip affected</th>
<th>Right hip affected</th>
<th>Both hips</th>
<th>Total affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>0/75</td>
<td>1/75</td>
<td>4/75</td>
<td>5/75</td>
</tr>
<tr>
<td>Group II</td>
<td>0</td>
<td>0</td>
<td>1/75</td>
<td>1/75</td>
</tr>
<tr>
<td>X² = 0.75</td>
<td></td>
<td></td>
<td></td>
<td>p=0.861</td>
</tr>
</tbody>
</table>

The necessity of ultrasound examination is shown in Figure 2., where with ultrasound were confirmed only 29.4% and 4.7% of patients, in which in a clinical examination were suspected pathological findings.

Ultrasound detected different types of changes in preterm infants, and they are shown in Figures from 3. to 8.

5. DISCUSSION

Clinical study included total of 150 participants, out of which there were 77 females and 73 were male. The manner...
of diagnosing suspected developmental hip dysplasia was done via clinical, ultrasound and radiological examination. In the investigated group, a positive clinical finding was established in 22.6% children while no pathological changes were found in 77.3% participants. In the control group a positive clinical finding was established in 28%, and normal finding in 72% patients. We emphasize that clinical exam is a subjective method depending on experience of attending doctors and it was shown to be insufficient method for detection of the developmental hip dysplasia (4, 5, 6). Additional check of positive clinical diagnostic signs should be performed via ultrasound or x-ray diagnostic methods (7).

Out of total 75 on term infants developmental hip dysplasia was found in 5 participants while right hip was affected in one and both hips in 4 patients. In prematurely born infants, developmental hip dysplasia was found in only one patient with both hips affected. Obtained results speak in favor that prematurely born infants do not belong to the risk group for appearance of developmental hip dysplasia, and that developmental hip dysplasia is a progressive disease in which secondary structure changes of hip tissue and its surrounding is developed unless a congruent relation of joint bodies is achieved (8, 9). Thanks to the introduction of mandatory ultrasound screening in Sarajevo Canton first ultrasound hip examination was done in first two months after birth when an ultrasound exam is sufficient to establish diagnosis. The most recent investigations recommend period 6 weeks after birth as the optimal time for the first ultrasound examination of the hip (10). Regarding examining premature infants, the advantages of the ultrasound are even more emphasized since the premature hip structures are made of cartilage (11). Introduction of ultrasound hip examination in diagnosis of developmental hip dysplasia overcome disadvantages of clinical and radiological investigation, while radiological examination is not convenient in first three month due to the cartilage structure of joints and due to the risk of x-rays what is very important in prematurity born children (12). Ultrasonography is a diagnostic method that enables detection of developmental hip dysplasia right after birth by visualization of bone and cartilage structures. It should be implemented as a screening method of each newborn (term or preterm) at the age of 6 weeks after labor. Period for examination in preterm newborns should be calculated as corrected age (gestation age in which the infant was born and add time following labor) (13).

The study results demonstrate that developmental hip dysplasia was timely diagnosed in all participants and that all patients were successfully treated with conservative treatment methods (14,15).

Unfortunately, in both groups of patients there is a certain number of patients whose therapeutical outcome is unknown since parents did not bring child to control visit.

6. CONCLUSION

Health care in general is directed toward early detection of different deviations in children development. Developmental hip dysplasia, the most common deformation of locomotory system still has unknown etiology. Etiopathogenetic processes continuously and progrediendent directly act to the degree of anatomic changes of hip and have to be interrupted with early diagnosis and appropriate treatment. The frequency of premature birth is between 5 and 10% of all labors and demonstrates increasing trend. We suggest ultrasound examination of hips in each newborn, term or premature, at the age of 6 weeks after birth, taken into account corrected age in premature born children.

CONFLICT OF INTEREST: NONE DECLARED.

REFERENCES