EDITORIAL

Is DDH still a problem?

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Developmental dysplasia of the hip (DDH) is the most frequent developmental disorder of the locomotor system. It is detected among 0.1–5.2% of newborns (1, 2). This might be the reason, that there is a high interest to detect DDH cases as early as possible. Undetected or late cases lead to catastrophes for the patient and family. Limping, leg length discrepancy, pain, frequent operations and sometimes femoral head necrosis, osteoarthritis, disability and finally total hip replacement even in young ages are results of a dysplastic hip that is not diagnosed on time or left untreated or treated improperly. Independent from individual patient problems the treatment costs for late or neglected cases are enormous. Costs of hospitalization, operations, rehabilitation, and indirect costs because of limited ability to work are incredible high. In countries with poor common health-system these patients have no chance for a normal life because of their disability.

How to solve or reduce the problem

Clinical examination (Ortolani,Barlow etc.) is used very often in different countries routinely, but not generally worldwide. The literature is quite clear; clinical examinations can reduce but not solve the problem. It need “well trained and experienced doctors”! But what is the definition of a “well trained and experienced doctor”? How it can happen, that in spite of clinical examination we see neglected cases? More than 5o% of DDH cases does not have any “typical” risk factor. The clinical examination is very often so subjective, that even fully dislocated joints cannot be detected and may be missed.

Critical questions

1- What is the Ortolani and the Barlow sign, the Glissement, the dry click sign, the phenomenon of the loose joint capsule and the “click” according to Tönnis D?

2- What sign in what age is normal? When does one of these signs change to the other one?

3- What is the pathology inside the joints, when you feel one of these clinical signs?

First conclusion

Clinical examination is good, but has a lot of problems. We cannot solve the problem only with manually examination of risk babies, we need EVIDENCE!

We must look for a method, which is objective with measurable results, which is reproducible, independent from doctor`s experience and skill, without radiation and with low costs.

The solution is Hip Sonography!

We introduced this technique in 1980s and developed continuously in the last 30 years (3). In many European countries with a high standard of the common health system (e.g Germany, Austria, Switzerland etc.) all babies will be checked after birth sonographically by Graf technique.

The screening is a very effective method

Diagnosis and treatment, if necessary, within the first 5 weeks reduce the operation rate (open reductions, acetabularplasties) as well as head necrosis clearly and shorten the time for conservative treatment (4). The costs for ultrasound-screening and the treatment together are one third cheaper than the treatment cost alone before introduction of ultrasound-screening (5).

Where are the problems and how to solve them?

1- Methodical problems

The method was developed continuously and we learned from our mistakes. It is frustrating to see “modified” techniques in some other countries with the same mistakes we have done 20 years ago. Statements

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like "Ultrasound leads to over diagnose" or "not all dislocated hips can be detected by sonography" are based on "modified" techniques. These techniques are forbidden in Europe.

2- Teaching and learning curve

In our countries we have restrict rules, who can do hip sonography? the doctors need a certificate after training courses by authorized teacher. The qualities of the sonograms are controlled by a special commission.

3- To screen or not to screen" is not the question, it`s politics!

With hip sonography, the doctors in our countries cannot earn much money, but it must be clear to us, that it is a service to our babies and the next generation, also to our future.

Before any discussions about screening, we must look for good trained colleagues. It`s better to do nothing, than to do it in a wrong way!

DDH often is seen in cold climates worldwide. In central Europe (especially Alp region), DDH prevalence was high up to early 80`s, before introduction of ultrasound screening of the hip. It was a very frequent orthopedic problem. The infant hip surgeries were the main daily business of a great number of orthopedic surgeons in German speaking countries, Stolzalpe/Austria above all, in the past. Now, after a long period of development of the infant hip sonography and detecting the DDH is as good as gone. The pediatric orthopedic surgeons have in fact no more infant hips to operate, which is good for the children and their parents and even good for the economy of the health service. Although there is no longer a challenge for the surgeons, we have to improve the diagnosis of DDH and simplify its treatment.

I am happy to see such a great interest and efforts for Hip sonography around the globe. It is my pleasure to introduce the technique to Iranian colleagues. I am honored to support my Iranian friends with training courses in Teheran and Mashhad and to welcome colleagues from your wonderful country also in Stolzalpe/Austria.

References

1. Wood MK, Conboy V, Benson MKD. Does early treatment by abduction splintage improve the development of dysplastic but stable neonatal hips? J Pediatr Orthop. 2000;20:302-5.
2. Zgoda M, Wasilewski P, Wasilewska I, Golicki D. Influence of the treatment of developmental dysplasia of the hip by the abduction brace on locomotor development in children. J Child Orthop. 2010;4(1):9-12.
3. Tönnis D. Congenital Dysplasia and Dislocation of the Hip in Children and Adults. New York: Springer; 1987.
4. Von Kries R, Ihme N, Oberle D, Lorani A, Stark R, Altenhofen L, et al. Effect of ultrasound screening on the rate of first operative procedures for developmental hip dysplasia in Germany. Lancet. 2003; 362(9399):1883-7.
5. Grill F, Muller D. Results of hip ultrasonographic screening in Austria. Der Orthopade. 1997;26:25-32.