

CONGENITAL HIP DISLOCATION: ORTHO-SURGICAL EMERGENCY. THE IMPORTANCE OF EARLY DIAGNOSIS AND TREATMENT OF CONGENITAL DISLOCATION OF THE HIP

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ABSTRACT. Early diagnosis and treatment of congenital hip dislocation (at the maximum age of three years) assures a satisfying further development of the hip, without complications that could affect the patient's social life. Using hip ultrasound to trace the hips that present risks in the last few years has reduced the number of patients with congenital hip dislocation discovered at ages over two and has made possible the early orthopaedic or surgical treatment. In spite of all this there are also congenital hip dislocation cases diagnosed at ages of over three years. In the following we will present a clinical case of congenital bilateral hip dislocation diagnosed at a four years old girl, the surgical treatment and the clinical and radiological postoperative evolution.

Keywords: congenital bilateral hip dislocation; old ages diagnosis (four years and five months), surgical treatment; pelvic osteotomy

INTRODUCTION

The congenital hip dislocation is a part of hip's development dysplasias with hip subdislocation and acetabulum development deficiencies. Ultrasounds at periodical controls has made possible to trace in time the hips that present risks (subdislocation, acetabulum dysplasia) and early orthopaedics treatment (Pawlik ham, gypsum immobilization in positions that allow the development of hip's joint.

Although, in this century, when pediatrics orthopaedics has developed, doctors are more and more prepared and paraclinical resources have improved (ultrasounds, RMN, CT), we meet cases of hip dislocation at ages over three where surgical treatment is necessary (such as opened reduction, pelvic osteotomy, femoral shortening).

Clinical case study

The patient C. T., aged 4, comes to "Grigore Alexandrescu" Hospital for a routine check because her parents were disturbed by the little girl's swinging walk. From personal and family's medical history nothing

important is reported. Until she came to our clinic, the patient wasn't checked at any other pediatric orthopaedic clinic.

Conclusion: to early trace congenital hip dislocation a very important role it is played by parents who spend more time with their children and can identify certain statics or walk deficiencies, vicious positions of the lower members.

The clinical system exam was normal, but we discovered that the patient's skin was pale which made us suspect that she had anemia, but at the lab exam our suspicions were invalidated.

At the local exam, with the patient in clinostatism, it is found lower members in adduction and internal rotation with hips and knees in extension and in orthostatism it can be observed the patient walks with a glutens (medius lurch), hips in adduction and flexion. It is also found the lumbar lordosis is emphasized and the proeminence of the big bilateral trochanter. The bilateral Trendelenburg exam was positive.

At the passive mobilization of the hips, we can observe the following degrees of mobility:

Hip	Flexion	Extension	IR	ER	ABD	ADD
Right hip	130°	15°	35°	65°	20°	10°
Left hip	125°	12°	30°	60°	15°	8°

The pelvic Rx exam (with hips in abduction and internal rotation and with the kneecaps in zenith) reveals the next things:

- Cervico-obturator arch (bilateral broken);
- Small femoral heads, situated in the superior lateral

quadrant (Ombredanne's quadrangles);

- Retroversed bilateral femoral neck;
- Small cotil, flattened by an acetabular index of 45° on the right side and 42° on the left side.
- The presence of neocotil bilateral.



Fig. 1 Pelvic Rx with hip in abduction and internal rotation



Fig. 2 Pelvic Rx with kneecaps in zenith

Although the pelvic Rx exam is enough to diagnose bilateral congenital hip dislocation, still there has been done a bilateral hip CT that has revealed the anteversia and the posterior deficiency of the acetabulum that means small femoral heads flattened, with vasculare necrosis areas.

The terapeutical decision is clear: surgical intervention is necessary, orthopaedical threatment at this age and at this form of luxation (high) being without any result.

Firstly we operated the left hip,the intervention consisting in:

1. The teotomy of the adductor muscles (inguinal incision at 1.5 inches);
2. The opened reduction of the hip's luxation – using Smith Peterson's path (incision – 10 inches at the left hip);
3. Pemberton's pelvic osteotomy, gathering graft from the iliac creston the same incision as the previous step (2);
4. Femural shortening (2 inches) and fixating slabe and screws on the lateral incision from the right thigh (8 inches) to depressurize the femoral head after reduction.



Fig. 3 Pelvic Rx after the first surgical intervention (left hip)

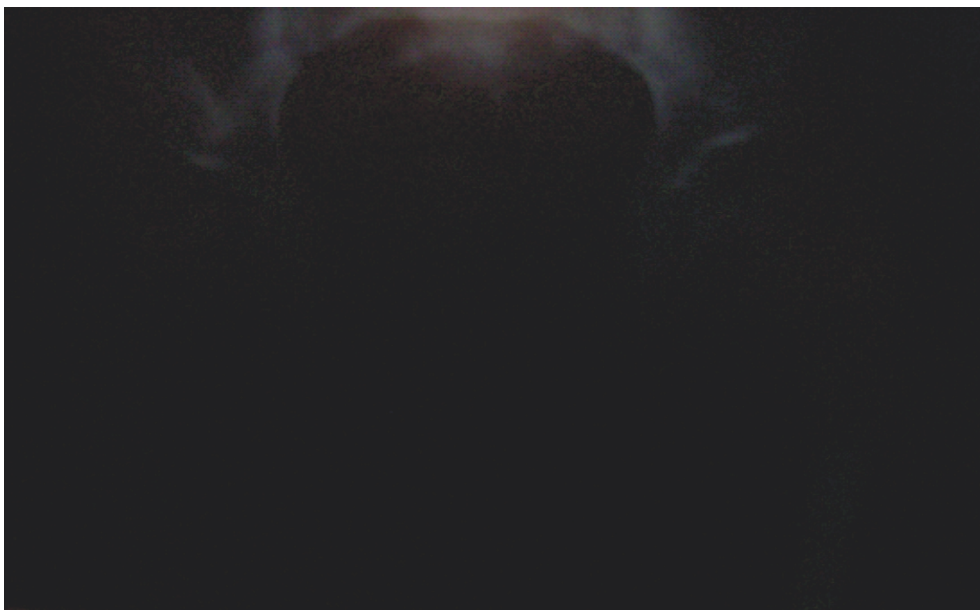


Fig. 4 Pelvic Rx after the second surgical intervention (right hip)

At 4 weeks after the first intervention, it has been decided that the right hip must be operated. The surgical intervention consisted in: the first three operative strokes were carried out on the left hip and we gave up on the fourth one (femoral shortening osteotomy). In the specialty literature, sometimes the femoral shortening osteotomy is indicated for children aged two and suffering from congenital hip dislocation.

The question that is made is: it is really necessary the femoral shortening osteotomy taking into account that it is necessary a separate incision, and so an additional aesthetical stress, and emotional stress caused by the

larger period of internment.

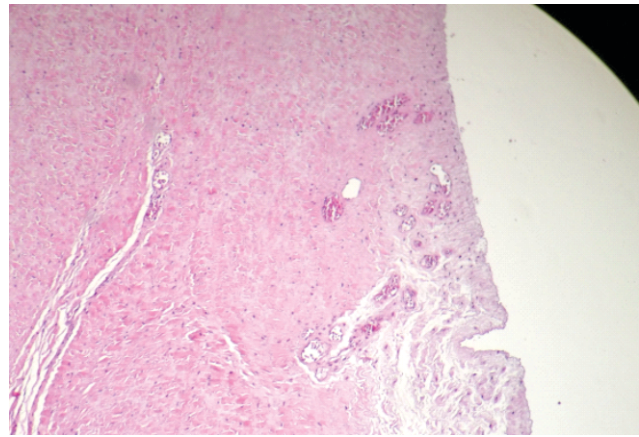
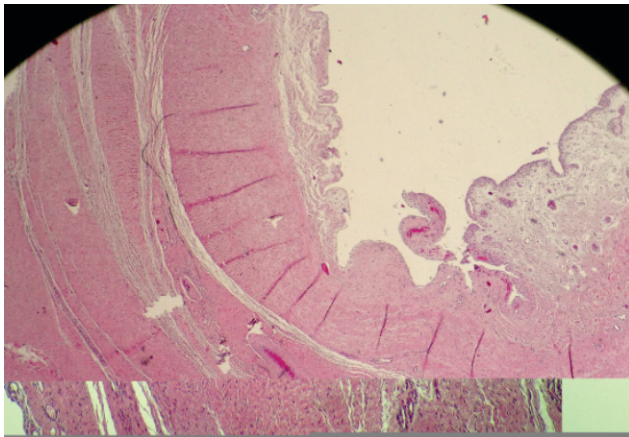
Entraoperative, at both hip joints, macroscopically we can observe anatomopatologically the next changes, that have favored the femoral head's dislocation: small acetabulum, deficient, anteverted, skew to vertical, his posterosuperior margim being flattened and thickened (the femoral head is dislocating posterosuperior in 90% of the cases). The acetabulum is filled with fibrofatted tissue (pulvinary tissue) excessively. The ligamentum teres is long, thick, hipertrophiated, hipervascularized (has bled abundant when it was cut) represent an important mark in the cotil identification. Hipertrophical

transverse ligamentum, thick articular capsula, fibrous and unextensible form an isthmus to neocotil (the excess was removed).

The iliopsoas muscle is contracted (we cut from the little trochanter), the labrum is inverted to the cotil, irregular flattened head, with areas from which the articular cartilage is missing (it is bigger comparing to the cotil, that is why in the congenital hip dislocation exists

head-cotil incongruence).

The anatomical elements that were cut were sent to anamopatological exam where the next changes were discovered: fibrofatty tissue with congestive vessels, bleeding areas on the round ligament, muscle fragments with some fibres with dystrophic damages, alternating with fibrofatty tissue with congestive vessels.



Postoperative, the patient has benefited of pelvipedios immobilization in gypsum apparatus for 4 weeks with hips in abduction (30-40°), internal rotation 20° and flexion 40-45°; after that abduction bar cuffs and internal rotation (to allow hip mobilization and avoid the joint's interlacement) for a few months.

Finally were applied abduction bar cuffs, just at night. The patient has followed an intense program of fiziokinetotherapy and a prolonged spa treatment.

The patient has presented at periodical controls, and we evaluated, helped by a pelvic radiographic exam the

development of the head-cotil binomial, and clinically we could observe that the joints' mobility at the hips' level was very good, the walk was normal, with bilateral negative Trendelenburg, an insignificant inequality of the members (the right lower member was longer with approximately 1.5 inches because we didn't apply shortening osteotomy). The patient is wearing a device that tightens her left leg to avoid pelvic imbalance and the spinal column's deviation (it can appear due to the members' inequality).

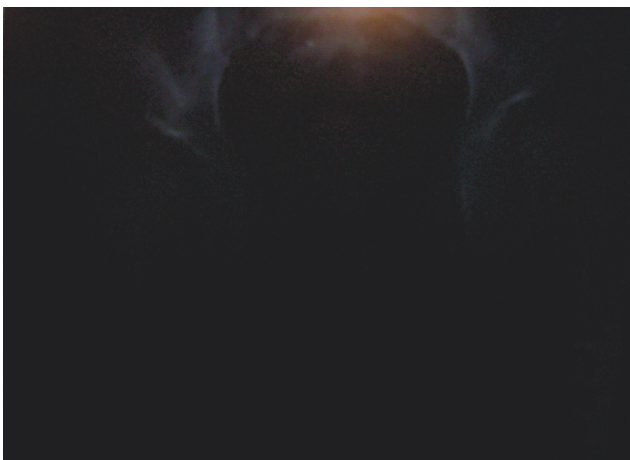


Fig. 5 Pelvic Rx after surgical intervention: 3 months



Fig. 6 Pelvic Rx after surgical intervention: 6 months



Fig. 7 Pelvic Rx after surgical intervention:
1 year

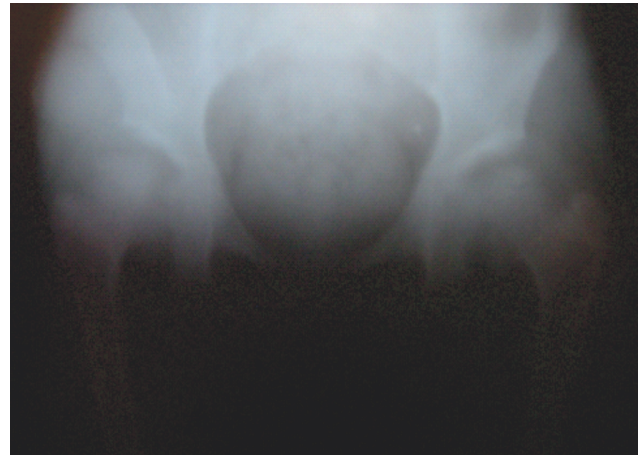


Fig. 8 Pelvic Rx after surgical intervention:
2 years

Six months after the operation we have done a right hip MRI (on the side without shortening and derotation osteotomy) and the next things were discovered: large femoral head, normal position, without spongy signal

modifications, short femoral neck, thick articular capsula; light acetabular sclerosis in the lifted area, subcutaneous cellular tissue in the inguinal-femoral area, with scratchy aspect.

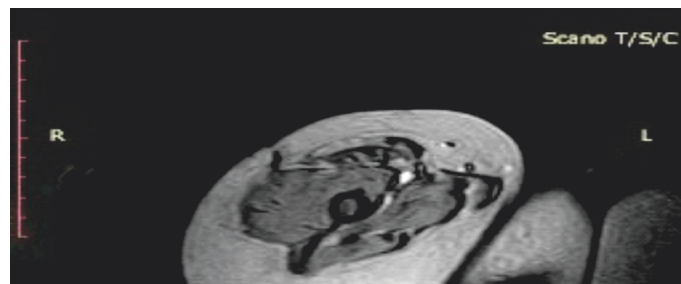


Fig. 9



Fig. 10

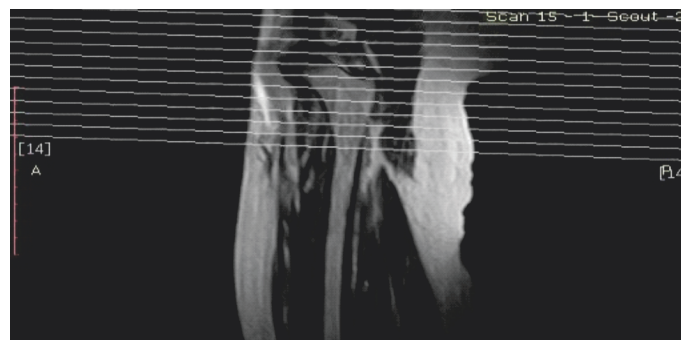


Fig. 11

CONCLUSIONS

The congenital hip dislocation represents an emergency to diagnosis and treatment. The early diagnosis implies an early treatment with a later favorable evolution (head-cotil development). At older ages it is found that, although the femoral head was reinstated in the cotil, surgically the head it is developing slower. In the presented case, the bilateral femoral head at two years after the surgery hasn't developed properly, it presents necrosis areas (the head is not spherical, it is flattened).

The osteotomy of femoral shortening and derotation it is important for depressurizing the femoral head, after the reduction of the dislocation, but it is not absolutely necessary. Indeed, the femoral head's suffering on the right side is greater than on the left side (because we didn't proceed with shortening osteotomy), but still the modelation process is present and evolving.

Postoperative care and the belonging's cooperation it is very important in the later clinical evolution and social integration. Gypsum apparatus for a long period of time can create a psychic stress for the patient and the parents. That is why it has to be very well explained to them the importance of gypsum immobilizations.

Extended kinetofiziotherapy is very important to recover almost entirely the mobility in the hip's joint. In the studied case it was observed a very good mobility on bilateral hip, so the femoral shortening and derotation osteotomy is important, but not absolutely necessary, as I concluded before. In this way we can avoid a surgical and aesthetical stress (a new scar) in case that we give up on the osteotomy.

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