105 - RECOMMENDATIONS TO THE CAREGIVER OF THE CHILD WITH CONGENITAL LUXATION OF THE HIP: REPORT OF TWO CASE HISTORIES

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INTRODUCTION

Congenital Hip Dysplasia (CHD) is consecutive to developmental dysplasia of the hip (DDH): femoral head, acetabulum or soft tissues, including the capsule that encloses the joint. Its incidence is more frequent in female infants; the unilateral lesion is more common than the bilateral one (SHEPARD, 1996).

Congenital luxations of the hip can be explained as a malformation during the development of the hip in the intrauterine period. When studying neonates, it is possible to observe that extreme positions of the hip during the development of the fetus can lead to significant damage in the joint cartilage. "The hip does not form a fixed fulcrum of rotation around which movements can be produced, and so the acetabulum may or may not develop completely and the femoral head may not present a spherical form" (KONIN, 2006).

The structure of the hip consists of a joint that joins the iliac bone to the femur. The articular surfaces that form the hip are: the acetabulum and the femoral head that, enclosed within an articular capsule and strengthened by thick and solid ligaments, form the hip joint. This is structurally important and its integrity determines the quality of the walking act. It produces the following movements: flexion – extension of the thigh over the trunk, external and internal rotation, abduction; these three combined movements produce the circumduction movement (DANGELO & FATTINI, 2005).

Therefore, the malformation probably includes multiple factors such as abnormal position and mechanical factors in the uterus, ligamentous laxity caused by hormones, genetic or environmental factors (TECKLIN, 2002). It is likely that intrauterine compression, abnormal position of the foetus or the combination of these environmental factors, lead to luxation in those who are genetically susceptible. (WYNNE & DAVIES, 1973).

Sizínio (2003) states that luxation that occurs intrauterinely from early pregnancy months constitutes "high luxation; that is, not a very flexible hip and difficult to reduce". The pelvic presentation at birth increases by fourteen times the chance of luxation, since the femur can be forced out of the acetabulum. Thus, all newborn infants should be examined in an attempt to identify luxation or abnormal laxity of the hip.

The newborn examination for the diagnosis of CLH includes the Ortolani and Barlow tests; however, they are more reliable when performed before the age of 2 months, since, as the infant grows, the unstable hip either remains in the acetabulum during normal growth, or does not stay in the adequate position, out of the acetabulum, and it can be repositioned by means of surgery. The classic clinical signs of luxation are: little abduction, the greater trochanter is high with relative shortening of the femur (DOWNIE, 1987).

Jeffrey (2000) states that x-ray examinations are useful in the detection of abnormal findings in the hip joint and they can also help in the adequate positioning of the joint during treatment with plaster cast.

When the child starts walking, there is visible limping when the Trendelenburg test is performed. Children suffering from bilateral CLH present symmetrical waddling gait, which may not be recognized as abnormal until the child learns to walk. Ultrasound image shows the instability of the hip and has been used for diagnosis as well as for monitoring the treatment (ADAMS, 1976; DOWNIE, 1987 and TIDWELL, 2001).

The prognosis depends on the child´s age when the diagnosis is made; and as for the treatment, it presents better results and is less aggressive if started when the child is a newborn. The aim of the treatment is to reposition the femoral head in the acetabulum without damaging it or compromising the blood supply with forced maneuvers. For this purpose, there are several different devices that keep the posture flexed and hip abduction, such as Graig splint, Von Rosen splint and Pavlik harness. Only half or 2/3 of the patients treated after one year of age can expect total recovery, free from complications such as retarded gait, widened pelvis or shortening of the affected limb (ADAMS, 1994; DOWNIE, 1987).

Furthermore, serious motor disorders interfere with the functional capacity of those presenting CLH, and can lead to irreversible sequels if not treated appropriately. Inadequate immobilization, forced position, leads to damage to the growth cartilage and the femoral epiphysis. That is why the device should only be used by a trained professional and well-informed, cooperative family member. Sizínio (2003) points out that the avascular necrosis of the femoral head constitutes an iatrogeny resulting from treatment complication. Adams (1994) observes that inefficient treatment causes permanent physical defects in the patient.

Therefore, the purpose of this study is to emphasize the importance of the physical therapist concerning the orientation of the caregiver, the adequate and safe proceedings that provide a safer rehabilitation in CLH cases, in both early and late diagnoses, with a view to obtaining a quick and safe rehabilitation. It is also our objective to point out that an early treatment, in combination with the proper physiotherapeutic orientation to the patient caregiver, will achieve fuller rehabilitation.

MATERIALS AND METHODS

When patients presenting Congenital Luxation of the Hip are not treated early and adequately, they can suffer irreversible sequels as a result of the serious motor disorders that interfere in their functional capacity. Therefore, this theme was selected for case report. The data were obtained from photographic records, x-ray examinations, reports by the mother of the children presenting CLH.

Ethical considerations: The children's parents agreed to take part in the research and signed a consent document informing the acceptance of the publication of the present study.

CASE REPORT

1ST report: a girl, born at term by cesarean section, cephalic presentation, in 1990, Petrópolis, RJ. At the neonatal evaluation, functional limitation of the left coxofemoral joint was observed (fig. 1), and it was confirmed by the orthopedist by means of the Ortolani and Barlow tests. She was submitted to complementary examinations such as x-ray and Magnetic

Resonance and diagnosed with Congenital Luxation of the Hip. The conservative treatment was indicated, with the placement of the PAVLIK harness (fig. 2), in frog-like position (hip in flexion and abduction). It was weekly regulated and removed at the age of seven months, when the acetabular correction was obtained, confirmed by the Magnetic Resonance examination.



Fig.1 functional limitation of the lower limbs



Fig. 2 – Pavlick harness

Medical accompaniment was maintained fortnightly and the evolution was recorded with the register of the acquisition of the predicted stages of her development. Gait was acquired at the age of one year and forty-five days.

2nd report: A.C.O.P., a girl, born at term by cesarean section, cephalic presentation, in 1994, Petrópolis, RJ. At the neonatal evaluation, all performed tests for CLH were negative. At the age of 6 months, weighing 10,400 kg (fig. 3), luxation of the left femur occurred in a spontaneous movement. She was examined by an orthopedist and an x-ray confirmed the diagnosis of CLH, with serious acetabular dysplasia. It was not detected earlier due to the acetabular instability which caused the femoral head to position in the acetabulum in certain positions, but it dislocated very easily. (fig. 4)



Fig. 3 – Child (6 months old)



Fig. 4 – X-ray

The application of plaster cast in human position was indicated and the procedure was carried out in the surgical theatre with the use of anesthesia. The cast is applied from the waist (3 cm below the umbilical scar) to the feet, with a 25 cm bar between the knees, maintaining abduction. There is an opening between the legs for the purpose of hygiene and physiological needs.

For the correction, the femur is dislocated and positioned in the acetabular region so that, with this stimulus and no movement, it can grow with the adequate form and prevent the femoral head from moving from the cavity and performing abnormal movement. The plaster cast was used for 135 days, always with radiological accompaniment (placing protective lead shields over the reproductive region in order to avoid radiological incidence from causing damage, infertility) with fortnightly visits to the orthopedist.

The immediate treatment consisted of the application of hip-foot plaster cast (hip flexion and abduction) with a 25 cm cross-bar between the knees with the purpose of maintaining the positioning (fig. 5). After 4 months it was replaced by the long leg cast, which was used for another 4 months and then replaced by the ATLANTA orthosis (fig. 8). During the evolution, accompaniment and control were done by means of radiological examination. When acetabular correction was obtained, the child was submitted to physiotherapy with the purpose of strengthening the lower limbs. She was discharged after gait acquisition, at the age of one year and eight months.



Fig. 5 – Hip-foot cast



Fig. 6 – Long leg cast

The use of long leg cast applied in the femoral region up to the toes leaves the waist free, so as to enable the child to sit down. Two 25 cm cross-bars are used with the purpose of avoiding closing and providing support. All previous cautions held, but this time extra care was taken since pelvic waist movement was possible, and in addition, there was excess weight in the lower

limbs; therefore, any mishandled procedure could cause lesion (cast weight: 1.220 kg). The cast was used for 135 days.



Fig. 7 Sitting position



Fig.8 Atlanta Orthosis

After the plaster cast removal, the Atlanta Orthosis, articulated, made to measure with rigid material and leather, coated with anti allergic protection was recommended to be used for more than 120 days. During this period, the skin got very sensitive and the leg movements had to be relearned. The mother was instructed to leave the child on a mat, so that she could learn the movements and have contact with what had been long asleep under the plaster cast. The child developed several forms of crawling, and found out various ways of exploring her legs, learned to explore the world in different ways, managed to sit on her own, and walked at the age of 21 months.

DISCUSSION

There is little literature reporting on the benefits of physiotherapy for the care of children with CHD. However, early intervention and physiotherapeutic follow-up, which helps and guides the home caregiver from the initial treatment phase until the discharge, prevents the occurrence of sequels (due to lack of experience in handling), and allows for the achievement of a good prognosis. It also contributes to better rehabilitation, which allows for new research based on children with possible alterations resulting from non-oriented procedures. If the diagnosis and the intervention are made early, the non-surgical orthopedic treatment carried out by traction and the plaster cast immobilization along with physiotherapy will be enough for recovery. In cases of late diagnosis, surgical intervention may be needed, which will almost always produce limitation of some hip movements (ENCICLOPÉDIA SAÚDE, 2005).

RECOMMENDATIONS

1. Pavlik-type orthosis

1) When the infant is using the Pavlik-type orthosis, avoid pulling the limbs in abduction, that is, do not force against the harness, making sure that there are no areas subject to compression; use only disposable diapers for better hygiene, to prevent bladder contamination;

2) Remove the harness only at bathing time (when the child should keep the position established by Pavlik). Do not force the lower limbs, as this will cause pain and discomfort;

3) During this period, the Pavlik is only removed for bathing and the lower limbs are released for diaper changing. Therefore, it is important that clothes such as trousers, overalls or any other kind that does not allow for leg opening (abduction 90%) are not worn. Good hygiene is also important to avoid contamination;

4) Take care of the baby's skin by drying it well after bath; dress it in a safe place to prevent falls and replace the harness without changing the traction (mishandling can cause avascular necrosis);

5) Be careful not to place it in side line position in bed or on the lap, because due to the traction imposed on the femoral head you would be making a contrary force. Always lift the child placing a cushion (approximately 60x40x5cm) underneath (like a tray), and when putting the child to bed, raise the headboard 15 to 20 degrees to make digestion easier, or to prevent it from choking. All these measures are necessary for the success of the treatment;

6) The best position to carry the child is the one that avoids the plaster cast causing any kind of compression to the child and does not cause discomfort. Always seek to have a support base.

CAST APPLICATION

1) The plaster cast is applied in the operating room with manipulation under general anesthesia, followed by immobilization. The process requires greater care; it should be started according to the drying time, which should be respected so that it does not cause any damage to the plaster itself or to the correction positioning.

2. Hip-foot cast

1) While holding the child, do not suspend it by the arms. This can cause spine or chest injuries due to the plaster weight;

2) Food, clothing and diaper changing care are extremely relevant, as they can keep the cast free from food particles, which can lead from simple discomfort to an infection;

3) During cast immobilization, it is impossible to bathe the child. Use only wet bandages in warm water, drying it immediately. Two people are needed to wash the head: one to hold the plaster and the child's back, and another to wash the head, which should be tilted back so as not to wet the cast. The care with the child's back and the upper airway is very important;

4) The use of soap is inappropriate as it can cause sores on the skin, and it can only be removed in current water. Therefore, only wet bandages in warm water should be used;

5) Pay special attention to the child positioning, because its chest expansion is limited by the cast;

6) The proper positioning so as not to cause any injuries must be well observed: always cushion the trunk and the hip in all circumstances;

7) When lifting the child, the weight gain due to the weight of the cast should be taken into account. Holding it inappropriately can lead to injuries of the upper limbs, spine and abdomen by tractioning;

8) The place where the child is placed should also be observed, so that falls can be avoided: avoid putting it in high places; when on the ground, remove objects that can be pulled down or the child may eventually get hurt .

9) Concerning nutrition, it is also important to evaluate the food intake, as there is a reduction of abdominal movements for digestion. It is also important to prevent from compromising gastrointestinal function: avoiding emesis,

constipation and diarrhea. Use foods that are easier to digest, such as fruits, juices, soups, and if possible do not stop breast-feeding.

3. LONG LEG CAST

1) When the plaster cast is changed into the long leg cast there is a release of the flexion movements and the hip extension, which transports the weight cast to the lower limbs. The child may fall back when sitting, as the low cross-bar favors such an action. Provide the necessary care by using protective stands: backrests and cushions;

2) There should also be some safety procedures concerning the skin in order to prevent lesions, mainly in the skin folds, on cast edges;

3) When removing the cast, the skin is more sensitive. More elaborate procedures are needed. Extra care should be taken with warm water, thick clothing and touch. There is a need to mobilize the limbs as this is something new for the child, after staying immobilized in the cast.

4. ATLANTA ORTHOSIS

1) When the child starts wearing the Atlanta orthosis, articulated (made to measure with rigid material and leather, coated with anti allergic protection), the knee joint movements are released. Extra care should be taken with this articulation as it is unstable. For example: do not push the movements or legs, and do not pull the legs in extension when changing diapers;

2) Because the child is still not in control of the movements of the lower limbs, it is necessary that such discovery happens naturally, and for that it needs support, like for example, a cushion placed on the floor, a comforter, a protected area. Thus, it will develop with less fear of taking risks;

3) The orthosis is only removed for bathing and diaper changing. When released, more space and freedom to develop will be needed. In the beginning, the movements are uncoordinated; therefore care is necessary so that falls do not occur;

4) Do not impose positions that may cause pain, like for example keeping the legs abducted and stretched. Such tasks can be difficult in the beginning, and some more time might be necessary to accomplish them;

5) Shoes must be appropriate and light to provide the necessary comfort;

6) Throughout this process the child is submitted to large radiographic incidence, therefore there is the need of the use of lead protection over the reproductive organ.

The child presenting CLH needs care that can provide good quality of life, aiming not only at its physical health, but especially at mental and social wellbeing. It is important to mention that social contact and interaction with the environment will make this child happier.

CONCLUSION

The physiotherapeutic assistance based on the methods used plus the orientations to the caregiver have proved to be of great value in the pathological processes of CLH, leading to better prognosis and gait quality. They are also of great importance in avoiding surgical intervention to reduce the luxation. Therefore, we believe this report will constitute an important contribution to the scientific academic community.

We expect that other studies in this area are carried out, further improving the treatment of children with CLH and the necessary guidance to their caregivers.

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RECOMMENDATIONS TO THE CAREGIVER OF THE CHILD WITH CONGENITAL LUXATION OF THE HIP: REPORT OF TWO CASE HISTORIES

ABSTRACT:

The Congenital Luxation of the hip is characterized by the loss of contact of the head of the femur acetabulum, incidence of the feminine sex (8:1), most commonly the unilateral form. If treated vigorously, it prevents complications that can compromise the prognosis. This work has as the objective to emphasize the importance of the physical therapist in the orientation to the caretaker, providing fast and accurate guidance and insurance. This study describes the case history of two subjects, describing the evolution of LCQ in two female children, where, in the first one, the pathology was diagnosed in the neonatal examination, and in the second, at six months of age. The resources used in the treatment had been Pavlik harnesses, immobilization of the pelvis-pedal type, plaster podálico lame person-femoral and cast of Atlanta. One can conclude that the based physiotherapeutic accompaniment in the used behaviors, added to the orientations of the caretaker, adds great value in the pathological processes of LCQ, how much to the optimum prognosis, and better quality of development to adult life, as well as preventing a surgical intervention for the dislocation correction. Based on these case histories, the accomplishment of new studies is proposed that aim at the physiotherapeutic intervention in the congenital dislocation of the hip and the necessary orientati**ONS FOR THE FAMILIES AND/OR CARETAKERS.**

KEY-WORD: Congenital Luxation of the Hip – Displasia

RECOMMANDATIONS DIRIGEES AU GARDE-MALADE QUI S'OCCUPE DU ENFANT PRESENTANT DES DYSPLASIE LUXANTE DE HANCHE: DESCRIPTION DE DEUX CAS.

RÉSUMÉ

Introduction: La dysplasie luxante de hanche DLH), se caractérise par la perte du contact de la tête du fémur avec le

cotyle (acetabulum) ; son incidence est plus fréquente chez le sexe féminin (8:1), atteignant de 2 à 17 :1.000 ; la forme unilatérale est plus usuelle. Le traitement précoce et adéquat évite les complications qui assombrissent les pronostics. Objectif: souligner l'importance du kinésithérapeuthe dans l'orientation du garde-malade, pour assurer une réhabilitation plus sûre. Méthodologie: Deux petites filles, soeurs, atteintes de DLH. La première a fait l'objet d'un diagnostic lors de l'examen néonatal et la seconde quand elle avait six mois. On eut recours au traitement conventionnel avec l'emploi des harnais de Pavlik , plâtre pelvien podalique; plâtre em position humaine et orthèse d'Atlanta. Le traitement kinésithérapeutique eut lieu après le traitement conventionnel dans l'un des cas. Cependant, la mère kinésithérapeute elabora des stratégies de maniement répondant à chaque nouvelle situation le long du traitement conventionnel, à fin de prevenir les lésions de la peau ou même les effets iatrogènes, en fonction du poids du plâtre. Résultats: l'on a pû observer des résultats encourageants dans les deux cas, étant donné que, pendant toute la période de l'emploi du plâtre et des orthèses, on n'observa aucune lésion de la peau ni manifestations algiques, en conséquence du maniement ou du poids du plâtre. De la même sorte, lês plâtres demeurèrent en bon état pendant toute la période d'emploi, leur remplacement ne se faisant pas nécéssaire avant le temps prévu. Conclusion: l'accompagnement par kinésithérapeuthe, selon les méthodes employées, ajoutées aux orientations au garde-malade, ont joué um rôle important dans le rétablissement du cotyle et ont évité l'emploi prolongé des orthèses et dês plâtres dans ces deux cas. Les soins dépensés pendant l'emploi des appareils ont contribué à um meilleur pronostic quant à la qualité de la motricité pendant la vie adulte, et ont évité que les cas s'aggravent au point d'exiger une intervention chirurgicale, pour la correction de la luxation. À partir de ces cas, l'on a pû dresser une liste de recommandations dirigées aux garde-malades qui s'occupent des enfants presentant dês DLH.

MOTS-CLÉ: Dysplasie luxante de hanche. Dysplasie du développement de hanche.

RECOMENDACIONES PARA EL CUIDADOR DE LO NIÑOS CON LUXACIÓN DISPLÁSICA DE CADERA: RELATO DE DOS CASOS.

RESUMEN

Introdución: La luxación displásica de la cadera (LDC) se caracteriza por la pérdida de contacto de la cabeza del fémur con el acetábulo; su incidencia es mayor en el sexo femenino (8:1), con incidencia entre 2 a 17: 1000 . La forma unilateral es la más común. Tratada precozmente y en forma adecuada evita complicaciones que comprometen el pronóstico. Objetivo: Enfatizar la importancia del fisioterapeuta en la orientación dada al cuidador, para proporcionar una rehabilitación más segura. Metodologia: Dos niñas, hermanas, con LDC. La primera fue diagnosticada en el examen neonatal y la segunda a los seis meses de edad. El tratamiento fue convencional a través del suspensor de Pavlik; yeso pelvipodálico; yeso en posición humana y órtesis de Atlanta. El tratamiento fisioterapéutico fue iniciado después del tratamiento convencional en uno de los casos. La madre, fisioterapeuta, fue elaborando estrategias de posicionamiento adecuadas a cada nueva situación durante todo el tratamiento convencional para prevenir lesiones de la piel y posibles iatrogenias en función del peso del yeso. Resultados: Se observaron resultados satisfactorios en los dos casos, pues durante todo el periodo de yeso u ortesis no ocurrió ninguna lesión de la piel ni episodios álgicos provenientes del posicionamiento o del peso del yeso. Por otra parte, los yesos se mantuvieron íntegros durante todo el periodo de uso, no habiendo necesidad de cambio antes del tiempo determinado. Conclusión: El tratamiento fisioterapéutico basado en las conductas empleadas, sumado a las orientaciones del cuidador, fue de gran valor para la recuperación acetabular e impidió el uso prolongado de las órtesis y yesos en estos dos casos. Los cuidados realizados durante el uso de los aparatos contribuyeron para un pronóstico mejor en la calidad de la marcha en la vida adulta, así como también evitaron que los casos evolucionaran para una intervención quirúrgica, a fin de corregir la luxación. Con base en estos relatos fue elaborada una lista de recomendaciones destinadas a los cuidadores de los niños con LDC.

PALAVRAS-CLAVE: Luxación displásica de cadera, LDC, displacia en el desarollo de la cadera.

RECOMENDAÇÕES PARA O CUIDADOR DA CRIANÇA COM LUXAÇÃO DISPLÁSICA DO QUADRIL: RELATO DE DOIS CASOS

RESUMO

Introdução: A Luxação Displásica do Quadril (LDQ) é caracterizada pela perda do contato da cabeça do fêmur com o acetábulo, sua incidência é maior no sexo feminino (8:1), com incidência de 2 a 17:1000, a forma unilateral é mais comum. Tratada precocemente e adequadamente, evita complicações que comprometem o prognóstico. Objetivo: Enfatizar a importância do fisioterapeuta na orientação ao cuidador, para proporcionar uma reabilitação mais segura. Metodologia: Duas meninas, irmãs com LDQ. A primeira foi diagnosticada no exame neonatal e a segunda aos seis meses de idade. O tratamento foi convencional através do suspensório de Pavlik; gesso pélvipodálico; gesso em posição humana e órtese de Atlanta. O tratamento fisioterapêutico foi iniciado após o tratamento convencional em um dos casos. Entretanto, a mãe fisioterapeuta foi elaborando estratégias de manuseio adequadas a cada nova situação durante todo tratamento convencional, para prevenir lesões da pele ou até mesmo iatrogenias em função do peso do gesso. Resultados: Observaram-se resultados satisfatórios nos dois casos, visto que, durante todo o período de gesso ou orteses não ocorreu nenhuma lesão da pele nem episódios álgicos, decorrentes do manuseio ou do peso do gesso. Assim como, também, os gessos se mantiveram íntegros durante todo o período de uso, não havendo necessidade de troca antes do tempo determinado. Conclusão: O acompanhamento fisioterapêutico baseado nas condutas empregadas, somadas as orientações ao cuidador, consistiu de grande valia para a recuperação acetabular e impediu o uso prolongado das orteses e gessos nestes dois casos. Os cuidados realizados durante o uso dos aparelhos corroboraram para um melhor prognóstico na qualidade da marcha na vida adulta, assim como evitou que os casos evoluíssem para a intervenção cirúrgica, para a correção da luxação. Baseando-se nestes relatos, foi elaborada uma lista de recomendações a serem feitas aos cuidadores das crianças com LDQ.

PALAVRAS-CHAVE: Luxação displásica do quadril, LDQ, Displasia do desenvolvimento do quadril.

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