“Imperfect hips” As a Problem at an Older Age. Early and Late Prophylactic Management before Arthrosis

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Received: 11-23-2015
Accepted: 01-13-2016
Published: 02-12-2016

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Abstract

The material about the “Imperfect Hips” is based on 29 years of observations conducted in the years 1985-2014 and [N] 552 cases. The arthrosis of the hips has multifactorial causes, but in the paper authors described one - the biomechanical influences in development of this illness. The causes of “imperfect hips” on the left side (left hips) are linked with insufficiently cured hip dysplasia in childhood. The causes of the “Imperfect Hips” on the right side (right hips) are connected with “The Syndrome of Permanent Standing ‘at ease’ on the Right Leg” (SofSRL). In all the cases of “Imperfect Hips” it is important to introduce the prophylactics methods very early, that is at the age of 40 or 50. Presented methods are simple and effective. The basis of such prophylactics is the following: 1/ changing of the position of standing – we advise – standing in abduction of 20 – 30 degree and in internal rotation of 20 - 30 degree, 2/ changing of walking – gait with feet apart 30 cm; 3/ sitting – in internal rotation of hips (knees together – feet apart) and 4/ sleeping – in flexion and abduction of the affected hip (like a baby – but only with one leg). As an additionally treatment we advise stretching exercises in kinesiotherapy and physiotherapy.

Introduction

The presentation is based on the material from Paediatric Orthopaedic and Rehabilitation Department (young patients) and from the Out-Patient Clinic of the authors (T. Karski and J. Karski – youth and adults patients) conducted in the years 1985-2014, and the number of cases is (N) 552. The authors present clinical and radiological features of insufficiency of the hips. They discuss the problem of pre-arthrosis of the hips and described the methods of prevention. It is impossible to discuss the problem of “imperfect hips” and its prevention in adults, without mentioning hips and their function in childhood. The most important factor is to fully cure the hips dysplasia in the childhood period. In this therapy the functional treatment plays a special role. For adults - we present some rules of conservative treatment in the incipience arthrosis period. The article presents problems of “pain syndrome” as the first sign of “imperfect hips” in pre-arthrosis of the left hip as results of not fully cured dysplasia, or in the right hip as a result of “The Syndrome of Permanent Standing ‘at ease’ on the Right Leg” (T. Karski).

Newborns, infants and small children with hip problems

The dysplasia of the hips can occur in laxity of the joints - in Lublin material ca. 10 % and in “the Syndrome of Contractures (Hans Mau – Siebenersyndrom – Germ.) and Deformities” ([SofCD] - Tomasz Karski) - in Lublin material 90% SofCD occurs when the child has not enough space in the uterus in the foetal period of life. Mostly, it is left sided SoCD. As a result dysplasia appears or even dislocation of the hip, more frequent in the left hip (Figure 1a, 1b). The beginning of treatment of dysplasia of the hips should start as early as possible, the best - from the 1st to 3rd week of life according
What does “Imperfect Hip” mean?

In our orthopaedic praxis [3-5,13,14] we see patients with various clinical symptoms, like pain, limited movement of hips, temporary limping, the feeling – that the leg is “weak”. The X-ray examination of such patients, can present “almost normal hip joints”. Perfect observation of their X-ray pictures show normal Wiberg angle, normal CCD (Centrum Collum Diaphysis) angle, normal AT (Antetorsion) angle and even a good or almost well developed roof, but the congruence of the “femoral head into the acetabulum” is not proper [3-5,9,12-14,15-24]. The distance between femoral head to the bottom of the acetabulum is much bigger than the distance of the femoral head to the roof. Such hips are permanently overstressed during gait in every step – which we had previously confirmed in mathematical analysis. We found mathematical rules to the function of such “imperfect hips”, but these will be presented in detail in on other paper.
arthrosis in the future [4,5,14]. The arthrosis of the left hip is mostly connected with primary hip dysplasia, not sufficiently treated during the childhood period, as mentioned above (Figure 4b, 5a, 5b). The arthrosis of the right hip is connected with “The Syndrome of Permanent Standing ‘at ease’ on the Right Leg” (T. Karski) (Figure 6a, 7, 8, 9a, 10a).

The patients with an incidence of pain syndrome in their hip” in material of both authors during the years 1985-2014 (N) 552. Age of patients 18-85 years. Average age of 60 years.

Clinical symptoms of “Imperfect Hips”

Everybody of us, over the following years, and special - very intensive in adult period of life, lose abduction, internal rotation and extension of the hips. Some patients present “such restriction of movements” in left hip ([IN] - 30%), others patients the right hip ([IN] - 70%). The pain syndrome in the left hip is the sign of illness and is an effect of not fully cured dysplasia in childhood. In the right hip it appears as result of “The Syndrome of (permanent) Standing ‘at ease’ on the Right Leg” (SofSRL). It is connected with a cumulative time of standing on the right leg over years. This “new syndrome” (SofSRL) is presented at Symposia and Congresses for the last 19 years by T. Karski.

The first symptoms of insufficiency of the hips are: pain - very often morning by first steps. The pain is localized in inguinal region, sometimes on lateral side of the hip, in some patients on lateral upper part of femur, sometimes the pain radioed to the knee. In some cases, the pain disappeared for some weeks, or even for some months and because of this is not treated seriously by patients.

Past 29 years of observations, has given confirmation that this phenomenon (pain), at the beginning of insufficiency of hips, is only temporary. Appearance and disappearance take place without any visible causes. In some cases of illness the pain can be only after long wandering (in mountains), after over-stressed sport like jogging, after hard work. Sometimes pa-
patients complain of limping. We repeat that in the beginning per-
tiod of illnesses all these pathological phenomenon can appear
only for a short time. This statement is very important from
clinical point of view – because in this “unclear clinical peri-
od of illness” - we should introduce the prophylactics meth-
ods. So, the orthopaedic surgeons, rehabilitation doctors and
physiotherapist should be familiarised with “The Syndrome of
Standing on the Right Leg” and with prodromal symptoms of
“Imperfect Hips”. In this early period of illnesses every doctor
should start with prophylaxis.

Radiological symptoms of “Imperfect Hips”

As mentioned in the chapter above – the radiological symp-
toms are connected with incorrect congruency of the femoral
head in the acetabulum.

In situation, when all angles and shape of the proximal end of
femur are proper - the hip joint, in spite of these, can not be
develop correctly if the femur head is not proper placed in the
acetabulum.

That's mean - the distance of bottom of acetabulum to head is
bigger than the distance between the head and the roof (Figure
4b, 5a, 5b, 6a, 7, 8, 9a, 10a).

The prophylaxis and treatment of “Imperfect Hips” by
physiotherapies methods

The aim of treatment and prophylaxis (in many cases is equal)
is to restore the full movement of the hips and changing the
load during standing and during gait, in every day, in every
situation of standing and in every step by walking, in many
years of life. The article presents exercises elaborated over 29
years, which are very useful in physiotherapy (Figure 11a, 11b,
11c). Additionally we can use: ionophoresis, diadynamics, la-
der, as well exercises in geothermal water.

In all cases with pre-arthrosis symptoms we received suffi-
cient or good results. It means - no pain or less pain, better gait,
better quality of life. In arthrosis cases – we receive “prolonged
period” of better function in walking. In this last group of
patients the hip replacement could prolonged for some years.

Results of physiotherapy

To compare the results in various groups of patients we had all
the patients [(N) 552 – 100 %] divided in three groups:

1. Patients (55 %) primary with normal gait, without visible
radiological changes in femoral head, but with temporary pain
as result of hip insufficiency,

2. Patients (30 %) with permanent pain, but without visible
radiological changes in femoral head,

3. Patients (15 %) with permanent pain, limping and advanced
arthrosis in the hips in X-ray examination.
In first group (55 % from whole group) after new rehabilitation we observed long lasting good results - no pain over years, normal walking, good function of legs in daily situations. In this group “no pain” and “normal walking” period is longer than 25 years.

In second group (30 % from whole group) the patients informed that after some month of the therapy, symptoms of insufficiency of the hips – pain and limitation of movements - were smaller or even disappear for longer time. They inform about better walking and better function at work and at home. In third group (15 % from whole group) the patients walked better, but only for some month, smaller pain - sometimes for 6 month or even 1 – 1.5 year. Next, the patients from this group needed surgery – implantation of artificial joints – hips replacement.

Discussion

In development of coxarthrosis play role multifactorial causes. Between these influences there are: blood circulation disturbances in the femoral head in arteriosclerosis, in situations of blood high pressure, in gravidity periods of women. Coxarthrosis can develop after Perthes disease, after ephysisolisis capitis femoris juvenilis, but in the article we would like to draw your attention to the changes in almost all normal hips. We find that biomechanics of hips by walking and standing play a special important role in the development of arthrosis. Some people over the years loose the abduction, internal rotation and extension of their hips. A special pathogenicall is absent of internal rotation, which is necessary for every step during ours walking. In situation of absence of internal rotation it comes to irradiation of the capsule, ligaments, muscles close to the joint, what develop granulation of soft tissue and therefore disturbances of blood circulation. It is the way for arthrosis, especially when the femoral head in not proper placed in acetabulum. In literature only seldomly can we find articles concerning the prophylaxis of hips arthrosis similar to our point of view. We found only that Professor Britta Fuchs from Fresenius University in Idstein (Germany) arrived at conclusions similar to our in Lublin – that the limitation or loss of movement of hips leads to arthrosis, and on the contrary – restoration of the movements is the best method of prophylaxis. In literature, when prophylaxis is discussed, it is mainly in the context of strengthening exercises for hips muscles. In our research we proved that only stretching exercises to restore the full movement of the hips, especially to restore internal rotation, abduction and extension are proper in program of prophylaxis.

Many authors devoted their studies to hip surgery, mainly to hip replacement, and next to the complications after the first operation. Most articles and subject of symposia and congresses on the world are about the complications, about the secondary arthroplasty, about the postoperative infections and others.

Our observations confirmed that only regular, everyday prophylactic and stretching exercises to keep free movement of the hips and proper loading of the hips during walking and standing is the best method of prophylaxis of hip arthrosis. In the chapter about the results of our method we provide it in percentage but it means that in every case we receive better function – walking without pain, better daily functioning of every patient.

It should be stressed that early introduction of the new ways of “the Lublin prophylaxis” brings good results. They must be introduced at the age of 40 or 50 and continued over the all next years.

Conclusions

1. The hips in newborn, babies and small children should be fully cured - that means in 100 %. It is important – to receive full restitutio ad integrum.

2. The normal sonography examination in newborn and babies do not mean normal and healthy hips, because in Syndrome of Contracture and Deformities [SC&D] dysplasia develops with the passed time (developmental dysplasia of the hip [DDH] – Klisic).

3. Not fully treated hips in SC&D with years will be only worse and next in adult’s age develop arthrosis. Mostly in the left hip.

4. If the hips are not cured enough, the following problems may occur in the future: a/ “imperfect hips”, b/ pre-arthrosis, c/ arthrosis, d/ necessity of surgery – hip replacement.

5. We should learn and remember about “The Syndrome of (permanent) Standing ‘at ease’ on the Right Leg” as the cause of so called-idiopathic scoliosis and of arthrosis of the right hip, even in primary sufficient develop hips in childhood.

6. Our observations proved that muscle strengthening exercises which are still very popular in orthopaedic literature and practice are not appropriate for the prevention of hip arthrosis.

7. In the course of our treatment, the change of the load placed on both hips in every step, in every day of life turned out to be the most important factor. Through such therapy patients may restore full movement of hips: abduction, internal rotation and extension and that protect before arthrosis.

8. In prophylaxis we advises simply and very effective methods in daily activities – changing the position of (A) standing – we advise standing in abduction 20-30 degree and in internal rotation 20-30 degree for every day situations, of (B) walking – we advise to keep in walking the feet apart 30 cm - 40 cm, of (C) sitting – we advise sitting with the knees together and feet maximal apart to restore internal rotation of hips and of
(D) sleeping – in flexion and abduction of ill hip to restore the abduction.

9. Such physiotherapy is very simple, but should be introduced in every moment of life, over years. Only in realization of all recommendations of standing, walking, sitting and sleeping can we receive good prophylactic effectiveness. Additionally, in prophylactics, it is advised to introduce various physiotherapy methods such as diadynamics, laser, cryotherapy, magnetic fields, exercises in water.

10. These simple methods can protect before arthrosis - many people, in many countries for many years of life.

Acknowledgement

We would like to express our thanks to Mr. David Poynton and Dr. Katarzyna Karska for correction of English in this paper.

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