Clinical, paraclinical and therapeutic correlations in Legg Calve Perthes disease in children

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Legg-Perthes disease is still a topical issue which continues to be one of the most common hip disorder in children and one of the least understood and yet unclear disease in pediatric ortopedics. The evolution of this disease is variable, from cases in which the femoral head remodeling can approach perfection to cases in which lesions are irreversible with serious architectural sequelae (coxa plana).

Debate regarding the etiology and pathogenesis of these disease still continues today and there is no unanimity in the diagnosis and treatment management.

LCP disease clinical picture is often very poor, symptoms are limp and pain, classical Legg Perthes disease is described as "painless limp".

LPC disease treatment remains controversial and there are big differences among authors on orthopedic or surgical methods, establish order and when their benefits. Moreover, although surgery is more and more followers, there is a nonunity of views on the procedures used and results and in addition brief natural history, with insufficient studies comparing different treatment methods, doesn’t help to resolve controversies.

The study consisted of three main directions. The first step was a meta-analysis of literature in an attempt to update and synthetize current knowledge and perspectives on the disease. Secondly, I studied all the cases over the last 18 years presented in the Children's Hospital in Brasov in relate the concepts of modern therapeutic approach and my results and in the last five years, based on knowledge accumulated I realized a prospective development of an algorithm, trying a diagnosis and therapeutic protocol, reasonably, repeatable and applicable to the conditions currently existing in our country hospitals.

Various studies indicate that lateral pillar Herring clasification and onset age are the main factors related to the outcome. Female patients have worse outcome, especially if the onset is over 8 years old.

Treatment had no significant effect on children aged 8 years or less at the time of illness. In lateral pillar group B and B/C, results of surgical treatment were significantly higher than those of nonsurgical treatment for children older than 8 years ($p \leq 0.05$). Patients aged 8 years or less at the beginning of the disease and placed under lateral pillar group B developed as well as surgical and nonsurgical treatment. Hips in lateral pillar group C had the least favorable outcome, with no difference between operated and unoperated groups.
Perthes disease can’t be prevented, so it becomes important to minimize the effects, immediate damages on the child (physical and psychological) and on the parents and also in the future (physical disability). Early diagnosis and staging of the disease are especially essential for the initiation of correct treatment and prognosis evaluation.

This study sought to summarize and evaluate everything we know about currently Perthes disease and from this point to try to improve methods of diagnosis and treatment by removing or at least minimize subjective and subjectivity in the diagnosis and the inertia in treatment, in order to give each case a particular attention for better influence the natural history disease, potentially bad or very bad because it is so little noisy, but sometimes with disastrous consequences.

Because the clinic for these patients is very poor and treatment is guided mainly based on radiological diagnosis, one aim of this study was to examine the relevance of various radiographic classification systems of disease and establish their correlation with the prognosis. The conclusion I reached is that both the classification Catterall and Salter Thompson are charged with a high degree of subjectivity, but Herring's lateral pillar is more objective, is reproducible both intra and interobserver observers and I believe that it should be considered as the only correlate with better prognosis than others.

Appropriate treatment is important, often surgical, but the great majority of pediatric orthopedic surgeons do not accept surgical treatment, only in case of complications (coxa magna, subluxation, excessive varus). Thus, in present study I accorded a high attention to the risk group, meaning children over 8 years.

No argument seems to be able to influence the surgeon's decision for a femoral osteotomy or innominate one. Because after a postoperative immobilization for 6-8 weeks and after a short recovery period of 10-14 days patients regain their daily activities without restriction, surgery seems to be the first choice indication in children over 8 years and/or in advanced stages of disease.

A major advantage of surgery is that the final results are known, while in the orthopedic treatment the surgeon must decide when to stop the treatment and often it is not an easy decision, another advantage is the recovery of the patient to his daily activities, rapidly after a surgical procedure.

So, I think the indication for surgical treatment should be extended to children below 8 years of age in order to cancel the orthopedic treatment in cases where we are not sure of rapid recovery or/and favorable with orthopedic treatment.