**SUMMERY**

*This work was classified into the following parts:*

**The Review of Literature:**

1) Definition and pathology of Perthe’s disease: Legg-Calve`-Perthe’s disease is a syndrome in which an avascular event affects the capital femoral epiphysis. Following the avascular event, growth of ossific nucleus stops and bone becomes dense. The dense bone is subsequently resorbed and replaced by new bone, during which process the mechanical properties of the femoral head are altered such that the head tends to flatten and enlarge. Once new bone is in place, the head slowly remodels until skeletal maturity is achieved. The disease is of variable severity, the disease is more common in boys, more common in the age of 4-10 years.

2) The etiology of Perthe’s disease: is unknown, but the disorder may be due to silent coagulopathy, various genetic epidemiological, biochemical, and other factors associated with this condition have been studied, but the exact etiology is still unknown.

3) The diagnosis of Perthe’s disease: is usually made from the history and physical examination and confirmed by plain radiographs. Sometimes it shows some difficulties , as the disease usually occurs in young children who cannot express the complaint accurately, and on the other side, in the majority of cases the complaint of the patient is away from the site of the disease, which is the hip joint, as in the knee or the thigh area thus leading many of these patients being wrongly diagnosed.

4) The objectives of treatment of Perthe’s disease: are to produce, a congruous hip joint that is fully mobile, and to prevent degenerative arthritis of the hip later in life. Deformation of the femoral head occurs either during the later part of the stage of fragmentation or early in the stage of regeneration. Any intervention aimed at preventing femoral head deformation should be instituted before the disease has progressed so far.

The treatment Legg-Calve`-Perthe’s disease is based mainly on the concept of containment, which means trying to keep the femoral head covered by the acetabular cartilage to prevent the head from mushrooming out of the acetabulum. Containment treatment is based on the principle of directing the femoral head into the acetabulum, Containment may be pursued by non-operative means(abduction casts or abduction orthoses),or operative methods as femoral varus osteotomy to redirect the femoral head into the acetabulum ,Salter osteotomy to redirect the acetabulum over the femoral head ,lateral shelf acetabuloplasty, percutaneous drilling of the femoral head and soft tissue release may be a good contribution to the lines of treatment of Legg-Calve`-Perthe’s disease, its advantages include:

* Good result outcome including clinical and radiological improvement
* Easy technique.
* Safe technique with minimal complications.
* Short hospital stay.
* Less limitation of activity in comparison to other treatment modalities of Perthe’s disease.

**Patients and Methods:**

-The patients in this thesis are 25 patients with Perthe’s disease (23 boys and 2 girls),with age ranging from 8-12 years at the time of operation.

-Methods of clinical assessment by using the Harris hip score.

-Methods of radiological assessment include the plain radiography with monitoring of the femoral head containment, head grading according to the Herring lateral pillar classification and the Stulberg classification.

-Degree of acetabular coverage using the center edge angle of **Wiberg**

**-**Staging byMRI

-Methods of surgical intervention included is lateral shelf acetabuloplasty, soft tissue release and percutaneous drilling done in all 25 cases

**Results:**

-Results were expressed in terms of preoperative, postoperative and follow up clinical and radiological status according to the previously mentioned parameters

-Complications of the procedure and their management were discussed.

**Conclusion and Recommendations:**

Shelf acetabuloplasty, soft tissue release and percutaneous drilling of the femoral head may be a good contribution to the lines of treatment of Legg-Calve`-Perthe’s disease in late onset age group above 8 years, its advantages include:

-Good results outcome including clinical and radiological improvement

-Easy technique.

-Safe technique with minimal complications.

-Short hospital stay.

- Less limitation of activity in comparison to other treatment modalities of

Perthe’s disease.