Introduction and Aim of the Work

INTRODUCTION

The clinical success of total hip arthroplasty has made it one of the most commonly performed Orthopaedic procedures. Since the introduction of modern total hip arthroplasty by Charnley, attempts have been made to improve the quality and longevity of the results. ***(Michael et al., 1996).***

The success of total hip arthroplasty is based essentially on the creation of stable artificial weight bearing surfaces with low friction between components that are fixed securely in bone in contrast to cup arthroplasty or femoral head prosthesis (hemi–arthroplasty) in which the weight bearing surfaces between metal and the biological tissues are unstable ***(Harkess, 1998).***

Stuart et al., (1994) stated that the ideal candidate for total hip arthroplasty is an elderly patient with hip disease that causes a level of pain and disability unresponsive to conservative measures significantly impairing the patient's quality of life and warranting the risk of the surgical procedure ***(Stuart et al., 1994).***

A variety of disorders of the hip that occur during childhood may result in disabling secondary osteoarthrosis of the hip during adolescence. When options for treatment such as osteotomy or arthrodesis are not possible or not acceptable, total hip arthroplasty may be considered ***(Torchia et al., 1996).***

There are two main types of total hip replacements which are usually employed; cemented and cementless types. Although there are many reports of excellent results with cemented total hip replacement, the

main long term problem in the cemented total hip replacement is loosening of the implant and the consequent necessity for revision ***(Huo et al., 1992).***

However, ***Goetz et al., (1993)*** stated that by using the modern cementing techniques in cemented total hip replacement, the incidence of loosening will be much decreased and even lower than those of cementless one.

Spector (1992) Pointed out that there are many potential causes of failure of total hip arthroplasty these include :

- deficiencies in the design (size and shape) of the device for a particular patient. (e.g : an undersized non cemented stem).
- Surgical problems (e.g : problematic orientation or problems in wound healing).
- Host abnormalities or disease (e.g : osteopenia).
- Infection.
- Biomaterial fracture. wear and corrosion ***(Spector, 1992).***

Revision of total hip arthroplasty is much more diffecult and the results definitely not as satisfactory as after a primary total hip arthroplasty ***(Harkess, 1998).***

Aim of the Work :

In this thesis, evaluation of the late results of different types of total hip replacement will be carried out to determine the proper type of total hip replacement to be used, and how to improve the results of this important procedure.