INTRODUCTION

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Total Hip Arthropalasty is the most common adult reconstructive hip procedure currently performed in the United States, and in many other countries .With increasing number of patients steadily and requiring surgical revision *Takuya Otani and Leo A. white side (1990)* The research continues to improve results, to relieve pain, to reduce disability and to correct deformity, especially in young patients *Bourne et. al. (1991).* Investigation has been proceeded along two paths, one to eliminate the use of cement and the other to improve the cemented hip, and an intermediate step-the bipolar prothesis .

The bipolar cup concepts are now being used in primary as well as revision arthroplasty, especially in patients with acetabuler erosion *(Takuya Otani and Leo A. white side 1990)* .

Uncemented total hip replacement, has been introduced to achieve biological fixation, and there by, solve the problem of late aseptic loosening of cemented prostheses. *Callaghan et. al. (1985).*

But, cementless fixation was expected to solve the late aseptic loosening problem of cemented prostheses, so cementless (THA), have been used widely. The most common method of cementless implants

fixation in the United States involves the use of porous metallic materials that allow the bone ingrowth.

In the last 3 years, it became clear that the use of cementless prostheses is not a guarantee against adverse tissue reaction .

Cementless porous-coated total hip prostheses were introduced recently in the hope of increasing the long term success rate of hip replacement in younger and more active patients, future implant designs should aim to improve the initial stability of cementless femoral components under torsional load, this should improve the bony ingrowth chances *(Engh et. al. 1983)*.

Cementless replacement was developed as an alternative to the improved cemented implants design, because, it is widely believed that (polymethyl- methacrylate) (PMMA) is the weak link in them *(Bourne et. al. (1991)*

The rate of loosening of cemented acetabular components increases with time, and it increases dramatically after 8 years, which has lead to a high number of relatively late failures of cemented acetabular components. However, when porous coated components have been used as an alternative, excellent bone ingrowth, has been demonstrated in hemispherical sockets transfixed with screw. Alternative methods of prosthetic fixation using cementless porous surfaced components were

investigated at several centers . .A last conclusions is " that cementless porous-coated femoral components can achieve durable biological fixation by bony ingrowth in high risk patients " *(E. Garica Cimbrelo et. al. 1990)* .

New cementing techniques have given a significant improvement but other investigators have cited cement as the main cause of late problems.

Cementless arthroplasty, has therefore become popular and the stable direct fixation of a metal prostheses to bone has been demonstrated in the laboratories, recentlyit has been found that a uniqe symptom of thigh pain occurs only with cementless total hip arthroplasties. *(Bourne et. al. 1991).*

At last, in young patients the incidence of failure of cemented hip replacements is reported to be even higher *(Chandler et al. 1981)*, and for this reason many surgeons changed their openions to cementless femoral stems.

The question remained, however, the improved cementing techniqe which had reduced the loosening incidence in the elderly would be effective in younger patients, or, it is better to direct. all the attention to cementless (THR). *Schinmel J. W. and Huiskes - R. et. al. (1986)*

So, in this essay, we will try to answer, this question and many other questions, which appeared in the last decade.