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To Find the Functional Outcome of Short Stem in Total Hip Arthroplasty by Using Womac Score

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Abstract

Background: Total hip arthroplasty using a short-stem prosthesis preserves more bone stock for any future revision, particularly in young and active patients who have a longer life expectancy and higher levels of activity and thus are more likely to undergo revision.

Methods: This study included both prospective and retrospective cases, which was conducted in the Department of Orthopaedic Surgery, Indira Gandhi Medical College, Shimla. Patients operated in past with short stem were included in the study as retrospective cases. Informed consent obtained from every patients prior to commencement of the study.

Results: Average pre op WOMAC score was 85.16 which changed to 19.16 in last follow up with significant p value of < .001

Conclusion: WOMAC score changed from average preoperative score of 85 to postoperative score of 20

Keywords: WOMAC, THA. Post –operative.

Introduction

Total hip arthroplasty using a short-stem prosthesis preserves more bone stock for any future revision, particularly in young and active patients who have a longer life expectancy and higher levels of activity and thus are more likely to undergo revision. Other advantages include less thigh pain and ease of use in minimally invasive surgery because of the more medial entry point of the stem in the femoral neck. Restoration of the femoral offset improves hip abductor strength and range of motion and decreases limping, dislocation risk, cup strain and polyethylene wear. Improved hip biomechanics and minimising limb length discrepancy improves patient's satisfaction, gait, back pain & ultimately leads to improved functional outcomes. [1]

Like any other operative procedures THA with short stem does have its limitations and complications. Various complications of THA includes increased risk of perioperative morbidity and mortality and post operative infections, dislocation/instability, heterotopic ossification and implant related problems but the benefits of THA outweighs the complications.[2]

Material And Methods

Study background: This study included both prospective and retrospective cases, which was conducted in the Department of Orthopaedic Surgery, Indira Gandhi Medical college, Shimla. Patients

operated in past with short stem were included in the study as retrospective cases. Informed consent obtained from every patients prior to commencement of the study.

Study Subject: All the subjects who fulfill inclusion criteria were included in the study. Patients interrogated in detail regarding pain with special reference to whether it originated from hip only or from somewhere else. Any deformity of neck, spine, hip and chest expansion was tabulated. Special emphasis on neck and spine movements, allergy to metals/medications, any other generalized body diseases or affection likely to influence surgery or its outcome were evaluated and documented.

An exhaustive general physical and hip examination was done to know the patient's fitness for surgery, its expected outcome and postoperative rehabilitation plan to be carried out after surgery. Detailed spine and chest examination was done to see any anticipated difficulties during endotrachial intubation. Preoperative consultation with the anaesthetist was done and the need for special equipment was arranged which could be required if necessary.

Inclusion criteria

All age group patients with good bone stock, longer life expectancy who required THA for painful disabling hip included in the study.

Exclusion criteria

1. Revision surgery
2. Active infection of hip joint
3. Mismatch between patient's expectations and outcome of surgery
4. Intra operative change of plan

Observations and Results

This study was conducted in Department of Orthopaedic Surgery, Indira Gandhi Medical College, Shimla, Himachal Pradesh. Total 24 hips (19 prospective, 5 retrospective) in 20 patients were taken for study. In four patients bilateral THA done using short femoral stem.

Mean age was 44 years. 30-60 years of age was the most common age group operated and males predominated in our study. Left side was operated most frequently than right, while in 20% patients were operated bilateraly and all of them were less than 50 years of age. Avascular necrosis with secondary osteoarthritis (60%) was the most common indication. One patient of fracture neck femur with polyarticular rheumatoid and one patient of fracture neck femur with ankylosing spondylitis was operated.

Table 1: WOMAC score

	Pre op %	Post op %
0 to 20	0	75
21 to 40	0	21
41 to 60	0	4
>60	100	0
Total	100	100

Average pre op WOMAC score was 85.16 which changed to 19.16 in last follow up with significant p value of < .001

Discussion

Total hip arthrozplasty is a well-documented surgical procedure which relieves pain and functional disability, improving the quality of life.

Average pre op WOMAC index was 85, 38 at 6 weeks, 26 at 6 months and at final follow up was 19. In a study by Ronak et al[3]89 patients were reviewed who were younger than 70 years with short femoral stem . Patients having average pre op WOMAC score was 46 which reduced to 5 in post operative period at a average follow up of 2 years. In a study by Kim et al[4]preoperative WOMAC score was 61 which Improved To 21 Points At A Mean Follow Up Of 4.6 Years.

Conclusion

WOMAC score changed from average preoperative score of 85 to postoperative score of 20.

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