Original Research Paper

Volume - 13 | Issue - 06 | June - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Orthopaedics

PROCEDURE SPECIFIC COMPLICATES OF PRIMARY TOTAL HIP ARTHROPLASTY USING POSTERIOR APPROACH OF TOTAL HIP REPLACEMENT

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KEYWORDS :

INTRODUCTION

Total hip arthroplasty is the most commonly performed adult hip reconstructive procedure. The indications of total hip arthroplasty are varied including avascular necrosis of femoral head degenerative joint disorder of hip joint like osteoarthritis, inflammatory disorder of hip like rheumatoid arthritis and ankylosing spondylitis, aftermath of infective arthritis, tuberculous arthritis and sometimes ununited fracture neck of femur in adult and elderly individuals. Complications specific to any surgical procedure are inevitable to some extent and the same is true with total hip arthroplasty.

Procedure specific complications associated with primary total arthroplasty are complications that are directly related to surgical procedure including surgical approach used. These complications can be encountered in intraoperative, early postoperative and late postoperative period. Some of these complications are related to surgical approach used, some are due to technical fault in implanting the component and some are due to improper postoperative care. The complications can be vascular injury leading to haemorrhage, nerve injuries, iatrogenic fracture of femur or acetabulum mal-positioning of acetabular component, heterotopic bone formation, leg length discrepancy and infection.

For successful overall outcome and patient satisfaction prevention of complication is the consistent focus of surgeon and this requires the surgeon to be familiar with technical details of surgical approach, operative procedure, working knowledge of biomechanical principles and implant design.

There are three types of total hip arthroplasty i.e. cemented, uncemented and hybrid. Each type has its own advantages and disadvantages. In the cemented total hip arthroplasty femoral stem and acetabular cup are secured with bone cement (polymethylmethacrylate). In uncemented total hip arthroplasty fixation is achieve either by press fit" or Biologic ingrowth. In hybrid fixation cemented femoral stem is used while acetabular fixation is achieved by press fit with or without ancillary fixation with screw.

AIM OF THE STUDY – Present study has been undertaken to assess the incidence of complications in primary total hip arthroplasty using posterior (Moor's or southern) approach and to analyse, if possible, the factors responsible for the complication encountered.

REVIEW OF LITERATURE – Incidence of nerve injuries has been reported to be 0.7% to 3.5% in primary hip arthroplasties. Edward et al also correlated the amount of lengthening with the development of sciatic nerve palsy.incidence of vascular injuries has been shown to be 0.2% to 0.3% in various series. overall lengthening is more common than residual shortening. Williamson and Reckling in their series found 27% cases of symptomatic lengthening severe enough to require a lift on opposite side. Average incidence of dislocation is approximately 3%. Prevalence of femoral shaft fracture has been reported to be 1% in primary total hip replacement. Charnley reported infection in 6.8% of the first 683 procedures. Loosening of femoral and or acetabular components have been reported in various series in both cemented and uncemented category.

MATERIALS AND METHODS

This will be a prospective study and will be conducted in the Department of Orthopaedics J.L.N.M.C.H, Bhagalpur during the period from October 2020 to September 2022. The patients admitted through outpatient department with hip pathology requiring primary total hip replacement will be selected for the study. Detailed clinical, radiological and haematological evaluation of the patient will be carried out. Preanesthetic check-up andfitness in routine protocol. Informed consent of the patient after explain indication, complaints and prognosis of the procedure will be mandatory in our study. Templating also done. The operative procedure discussed and if necessary documented.

The following inclusion /exclusion criteria strictly adhered to in our study

Inclusion criteria

- Age – 20 to 80 Years
- Both sexes
- Symptomatic hip joint pathology affecting quality of life and or activities of daily living (ADL)
- Radiologically confirmed hip pathology requiring total hip replacement
- Medically and psychologically fit patients Exclusion criteria
- Active infection in and around affected hip joint
- Patients below 20 Years
- Medically and psychologically unfit patients
- Patients not willing for surgery

SURGICAL PROCEDURE – The Operation is performed in spinal/epidural/general anaesthesia as per discretion of anaesthesiologist. Standard operation table with radiolucent top preferred true lateral position of the patients will be ensured with the help of chest and back support . A10 to A15 cm curved incision cantered over greater trochanter will be used. After splitting gluteus maximus in the line of its fibres, short internal rotators of the help will be exposed divided. The femoral head will be dislocated by flexing. Adducting and internally rotating the femur. The neck of femur is osteotomised as per need. After standard preparation of acetabulum and femur, trial reduction carried out. The acetabular and femoral components implant used (cemented, uncemented or hybrid). The prosthetic femoral head will be reduced in acetabular socket and the stability checked intraoperatively. If needed final position verified under image intensification. Wound closure done using standard protocol with or without drain.

POSTOPERATIVE CARE – Postoperative supine position ensured and operated limb kept in abducted position with the help of triangular pillow. First dressing change will be done on 3rd postoperative day and drain removed if used in the procedure. Aided ambulation allowed when patient is pain free. Independent ambulation allowed after 10th postoperative day.

FOLLOW UP – Patient will be followed at 10th week, 16th week, 24th week and 3 monthly thereafter for minimum 10 months clinically and radiologically with special attention for detection of any complication in the concerned period.

OBSERVATION AND DISCUSSION – Patients examined clinically and radiologically at follow up for development of any complication and if a complication is detected, a detailed analysis of the factor or factors responsible for the concerned complication done. The results compiled, tabulated and compared with the previous studies.

RESULT – some procedure specific complications of THR using posterior apporoach include Out of 20 patients,1 patient developes dislocation around hip.this is because the posterior muscles and ligaments that help stabilize the thip joint are disrupted during the procedure,2 patients developed sciatic nerve neuropraxia causes lower limb weakness and numbness, 1 patient having severe blood loss and hematoma formation,and 2 patients develops post operative surgical site infection due to larges incision and greater exposure of the joint,1 patient develop femoral shaft fracture during cutting through the femoral neckand 3 patients developed limp due to the weakness and stiffness of muscles around hip joint .not any procedure specific complication seen remaining 11 patients

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