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The hip joint is affected by a variety of pathologies like congenital, traumatic, infective and degenerative. Considering these facts, it is obvious that a very large number of procedures have been described in literature for the reconstruction of hip.

Orthopaedic surgeons continue to debate on which surgical approach is best for hip joint arthroplasty because each approach has its merits and limitations. A Cochrane review by Jolles and Bogoch¹⁴ concluded, despite numerous studies examining the effect of surgical approach in, the quality and quantity of such trials were insufficient to enable a firm conclusion regarding whether one approach was superior to the other. Hip dislocation, abductor insufficiency, fracture and nerve injury are complications of hip joint arthroplasty, although their relative risk varies by approach. Various clinical trials have sought to elicit differences in patient-reported outcomes, complication rates and return to function among the surgical approaches. Hence we need the surgical approach which provides the best clinical outcome for the early rehabilitation and recovery of the patient.

METHODS The study was carried out in the department of Orthopaedics, S. N. Medical college, Agra from January 2016 to March 2017. The cases were selected among the patients attending emergency as well as outdoor clinics of dept. of Orthopaedics. All cases of traumatic and degenerative hip pathologies admitted in S. N.

Medical college Agra, were included in the study. 52 cases of traumatic and degenerative conditions were treated by hip joint arthroplasty.

Preoperatively patients were kept on skin or skeletal traction in cases of

trauma, to relieve pain, to check rotation and to correct the deformity.

Patient were educated for quadriceps exercise, gluteal exercise, toe movement and breathing exercise. Surgical technique 34 surgeries were done using the posterior approach and 18 were done using the anterolateral approach to the hip joint .

Posterior Approach- The skin incision is started about 10 cm distal to the postero superior iliac spine and extended distally and laterally parallel to the fibers of the gluteus maximus muscle to the posterior margin of the greater trochanter. Then direct the incision distally 10 to 13 cm parallel with the shaft of femur. Expose and divide the deep fascia in line with the skin incision. By blunt dissection, separate the fibers of the gluteus maximus.

Retract the proximal fibers of the gluteus maximus muscle proximally and expose the greater trochanter. The distal fibers are retracted distally and their insertion is divided partially into the linea aspera in line with the distal part of the incision. Now, expose and divide the gemelli and obturator internus and the tendon of the piriformis muscle at their insertion on the femur and retract the muscles medially. Expose the posterior part of the capsule of the hip joint. Incise the capsule from distal to proximal along the line of the femoral neck to the acetabular rim.

Distal part of the capsule is detached from the femur. Flex the thigh and knee by 90°, internally rotate the thigh, and dislocate the hip posteriorly.

Anterolateral Approach- Start with a straight longitudinal incision on the center of the greater trochanter. The caudal half of the incision to the trochanter tip was straight; the rest cranial half of the incision to the

trochanter tip was curved slightly to the dorsal side of the greater trochanter. The length of the skin incision ranged between 7 to 12 cm, depending on the physical condition of the patient and the anticipated size of the implant components. The fascia lata is divided in line with the skin incision and centered over the greater trochanter. The tensor fasciae latae is divided anteriorly and the gluteus maximus posteriorly exposing the origin of the vastus lateralis and the insertion of the gluteus medius. Now the anterior 1/3 of the abductors is released, leaving the posterior 2/3 still attached to the trochanter.

The incision is carried proximally in line with the fibers of the gluteus medius at the junction of the middle and anterior 1/3 of the muscle. Distally, the incision is carried anteriorly in line with the fibers of the vastus lateralis muscle down to the bone along the anterolateral surface of the femur. The neck is now exposed. After making a double door-shaped opening in the joint capsule, remove the head-neck fragment in situ or after dislocation.

Postoperative Care Ideally, rehabilitation should begin before the operation.

A patient who is motivated and informed and has appropriate goals is better participant in the rehabilitation process. A preoperative session was used to teach the appropriate mechanisms for transfers, the use of supportive devices, dislocation precautions. Hip extension exercises are encouraged, especially if there has been a pre-existing flexion deformity. The patient should spend time in the supine position each day, and pillows beneath the knee are discouraged. The hip flexures can be stretched early by flexing the opposite hip and maintaining the operated limb flat on

bed (Thomas test). Partial weight bearing was done after three days while <https://assignbuster.com/the-correct-the-deformity-patient-were-educated-for/>

totalweight bearing was done after 14 days in cemented bipolar and cemented THR.

Skin stitches removed after 12 days. Quadriceps exercise is mostly initiated 2 to 3 postoperative day while knee bending is done at 6 to 8 postoperative day. Activities like squatting, cross legs sitting and other positions which produce repetitive impact loading or extremes of positioning of the hip are unwise, and the patient should be warned that such activities can increase the risk of failure of arthroplasty. Postoperative antibiotics were given.

In the immediate postoperative period, the hip is positioned in approximately 15 degrees of abduction while the patient is recovering from anaesthetic. We used a triangular pillow to maintain abduction and prevent extremes of flexion. Drains are removed 24 to 48 hours after surgery.

Statistical Analysis Fisher exact test and T tests were used.

$P < 0.05$ was considered as significant difference. RESULTS 63.

46% of the patients (33) underwent cemented bipolar hemiarthroplasty, and 36.54% of the patients (19) underwent cemented total hip replacement.

Length of hospital stay The average length of hospital stay was 11.74 ± 1.78 days for the posterior group and $10.94 \pm 1.$

47 days for the anterolateral group. Functional outcome score The final result in both the groups were interpreted in the terms of recovery of the patients.

Modified Merle D'Aubigne and Postel's method was used for functional assessment. The means of scores of both the groups at the end of 6 month followup period were compared and were found to be significantly different.

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The anterolateral group had a mean score of 36.22 with a standard deviation of 1.17 compared to the mean score of posterior group which was 35.

35 with standard deviation of 1.28. In the study as the time of followup is increasing the patients are getting better pain score but relatively more in cases operated by anterolateral approach. However the final Pain score after followup of 6 months was identical. Muscle power and motion score increased in both groups during the followup period but it was slightly more in the cases operated using anterolateral approach.

There was progressive improvement in Function score of the hip joint in the followups, more in anterolateral group. 79.4% of the patients of the posterior group were having normal function of hip compared to 100% of the patients of the anterolateral group who were having normal function of hip at the end of 6 month followup.

There was improvement in the Walking score in both the groups in each followup. However the anterolateral group showed slightly more improvement as compared to the posterior group. Dislocation of the prosthesis in the late postoperative period was found to be a complication in the posterior group. 2 out of the 34 cases operated using the posterior approach showed dislocation of the prosthesis. It means that the complication rate was 5.

88%. No dislocation was found in the anterolateral group. Discussion In our study of 52 cases we used two surgical approaches i.e. Posterior and Anterolateral approach for hip joint arthroplasty. We used posterior approach in 34 patients and anterolateral approach in 18 patients. We have compared <https://assignbuster.com/the-correct-the-deformity-patient-were-educated-for/>

the results and complications in these two groups. The advantages of the anterolateral approach are decreased incidence of dislocations and providing good exposure of the acetabulum.

There are apparent drawbacks, however. The anterior part of gluteus medius can limit the proximal femoral exposure, necessitating tenotomy of these fibers. The inferior branch of the superior gluteal nerve is also vulnerable to damage.

Both of these factors can cause abductor weakness and this in turn can lead to an increased incidence of patients having a postoperative limp and diminished patient satisfaction. In a clinical comparison of the anterolateral and posterolateral approaches to the hip done by Ritter et. al. it was suggested that although the number of patients with limp was higher in the anterolateral group, the difference was not statistically different. However in our study no such gait disturbance due to abductor weakness was reported in either of the groups at the end of 6 month followup.

The posterior approach has the benefits of preserving abductor function and providing good exposure of the proximal femur and acetabulum. The main disadvantage seems to be the reportedly higher dislocation rates compared with those of other approaches. In a study conducted by Ganget. al. no patients with the anterolateral approach experienced dislocation. One hip (5%) in the posterior group had dislocation³⁰. Palan et.

al. in their study found that the overall incidence of dislocation by 5 years was 1.9% (21 of 1089 cases).

The dislocation rate was 1.7% in the anterolateral group and 2.3% in the posterior group²⁸. Petis et. al.

found in their study that dislocation rates for the posterior approach reported varied from 1% to 5%³². In our study a dislocation rate of 5.88% was found in the posterior group.

Out of 34 patients treated by posterior approach 2 patients showed postoperative dislocation. Both the approaches were found to be excellent for hip joint arthroplasty as the mean functional outcome score as assessed by the Modified Merle D'Aubigne and Postel's Method was 36.22 ± 1.17 for the anterolateral group and $35.$

35 ± 1.28 for the posterior group, both were more than 32 ie. excellent outcome. In hands of an experienced surgeon both approaches have an excellent outcome.

However when compared to each other the Anterolateral group showed better recovery as compared to the Posterior group.