

## **Background :**

Treatment of the distal femoral fractures is a cumbersome subject over the decade . There have been changing principles towards surgical treatment of supra condylar fractures of femur. Closed management of these fractures was the treatment of choice until 1970. This was due to lack of proper techniques and scarcity in availability of appropriate implants . Conservative methods at any age may be complicated by knee stiffness, mal union and nonunion.

Early surgical stabilization can facilitate care of the soft tissue, permit early mobility and reduces the complexity of nursing care. Open reduction and internal fixation has been advocated, using implants, including angled blade plate, fickle devices, Rush rods, Ender nails, Dynamic condylar screw, condylar buttress plate and interlocking nails, locking compression plate. A locking plate decreases the screw-plate toggle and motion at the bone- screw interface and provides more rigid fixation. Rigid fixation is felt to be one key to the successful treatment of these fractures .The conventional plates are associated with their own demerits such as screw pullout, implant failure and unstable fixation needing postoperative immobilization.

In the management of extra articular distal femur fractures, as the articular congruity is maintained and there is no involvement of articular cartilage damage fixation and early mobilization and rehabilitation can lead to excellent outcome for patients. Though distal femur fracture are managed recently by locking compression plate, as far as extra articular distal femur fracture is concerned retrograde intramedullary nailing can also be an option.

## **Abstract:**

A comparative study on the functional outcome in the management of extra articular distal femur fractures by Retrograde Supracondylar interlocking nail vs Distal femoral locking compression plate

### **OBJECTIVE OF THE STUDY**

- Comparatively analysis the functional outcome in the management of extra articular distal femur fractures by retrograde intramedullary interlocking nail against distal femoral locking compression plate.
- Comparisons in the functional outcome will be made on the objectives such as intra operative time, blood loss, time for union ,knee range of movements, wound complications, knee society score.

### **Material and Methods:**

Our study sample size is 28 patients, of which 14 patients treated with supracondylar nailing and 15 patients with distal femur locking compression plate. They were processed as per protocol, traction of extremity till the patient get fit for surgery. We have used 60 degree knee flexion and infrapatellar approach for retrograde nailing and We have used Lateral approach to fix the fracture with patient supine with sand bag underneath knee analyzed using standard scoring system called American Knee Society Score.

## **DISCUSSION**

The significant average time taken for SCN being 89.64 mins which is less time consuming than LCP technique which is average of 110 mins. Regarding blood loss , SCN operated patients had significantly less blood loss comparing LCP operated patients in our study. Average blood loss in SCN patients was found to be 224.29 ml and those with LCP was found to be 357.50ml. Blood transfusions rate were decreased while using nailing. Regarding union of fracture, the fracture united well earlier among those who were operated with SCN at an average of about 10.50 weeks which is earlier than the LCP group which was 12.15 weeks. The complications rate there was not much significant difference between the two groups. Knee pain (14.3%) and shortening (14.3%) was more common among those operated with SCN technique. Infection rate (14.3%) and stiff knee (21.4%) was more common among the LCP patients. Implant exit was done in one patient in SCN group and one patient in LCP group. The final outcome based on AKSS was not significantly different among these two groups. In LCP excellent outcome was seen among 21.9% of the sample and fair results was seen among 21.9 % , good outcome was seen in 42.9 % and poor outcome was among 14.3%. In SCN patients the final outcome was excellent among 21.9% and fair results were seen among 21.9% , good outcome was found to be an average of 42.9% and poor outcome in 14.9% which is similar in both groups and no statistical significant difference was seen in the final outcome of the patients.

## **THE CONCLUSIONS OF THIS STUDY ARE**

Fractures of distal femur are more common in high velocity injuries and occur in middle aged men and old age women. In extra articular fractures , SCN also showed good outcome compared

with LCP which is recently in use. Soft tissue damage control, early union, reduced operative time and reduced blood loss are the advantages of SCN over LCP. Both retrograde IM nailing and LCP plating may be adequate treatment options for distal femur fractures.

No significant differences in outcome between implants regarding fracture healing, non-union were found for both the techniques.

Both procedures need correct preoperative planning and adequate surgical experience so as to avoid revision surgery.

However, large study sample and long term follow up needed for accurate analysis of functional outcome