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# Surgical management of tibial condylar fractures

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**Abstract**
**Introduction:** The Rapid industrialization & growth of the modern infrastructure resulted in need for a speedy transport system. Improper roads & increased traffic have been accompanied by increase in the number & severity of fractures & those in the upper part of tibia are no exception.
**Result:** Study of 30 cases with Tibial fractures.30 cases were treated surgically were followed up & compared to Schatzkers study series conducted in university of Toronto. 8 had excellent, 18 good & 4 had fair or nil poor results.
**Conclusion:** Tibial plateau fractures in this study series have all united inspite of deep infection in 2 cases & loss of reduction in the other 2.

**Keywords:** Tibial condyle, fracture, knee, screw, plates

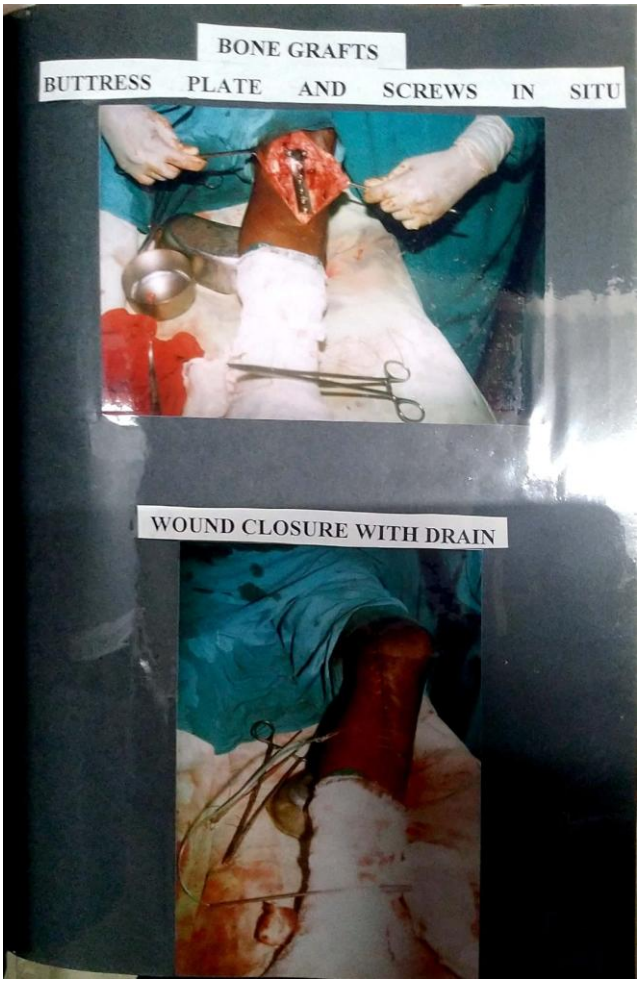
## Introduction
High velocity injury sustained in automobile disasters & increase in road traffic accidents as a whole is creating an ever growing problem, since man has taken to travelling at high speeds in the squatting position, when machine or automobile in which he tarvels stops suddenly much of the impact taken at first on the patella then on the tibia & femur in varying proportions.
When the stationary lower limb is struck by a moving automobile there results the so called 'Bumper fracture', since bumper of most vehicles being placed roughly at knee height. The exposed knee joint may be subjected to angulation, rotation or shearing starins & when the subject is upright, his body weight assists in the injury & he falls over.
In the past 2-3 decades there have been qualitative improvements in surgical techniques, better implants & soft tissue care, all of which have contributed for better results. So there has been an unmistakable trend in the surgical management of these injuries.
Management of condylar fractures of tibia involving articular surface has been difficult. Conservative treatment at any age may be complicated by knee stiffness & mal union. Open reduction & internal fixation has been advocated, using various implants including the buttress plates, cancellous screws, external fixators etc. in this study we have undertaken the surgical management of tibial plateau with various implants like condylar screws, buttress plates etc, & in 30 cases the results were evaluated with respect to function of the knee join & suitability of the implant for different fractures.

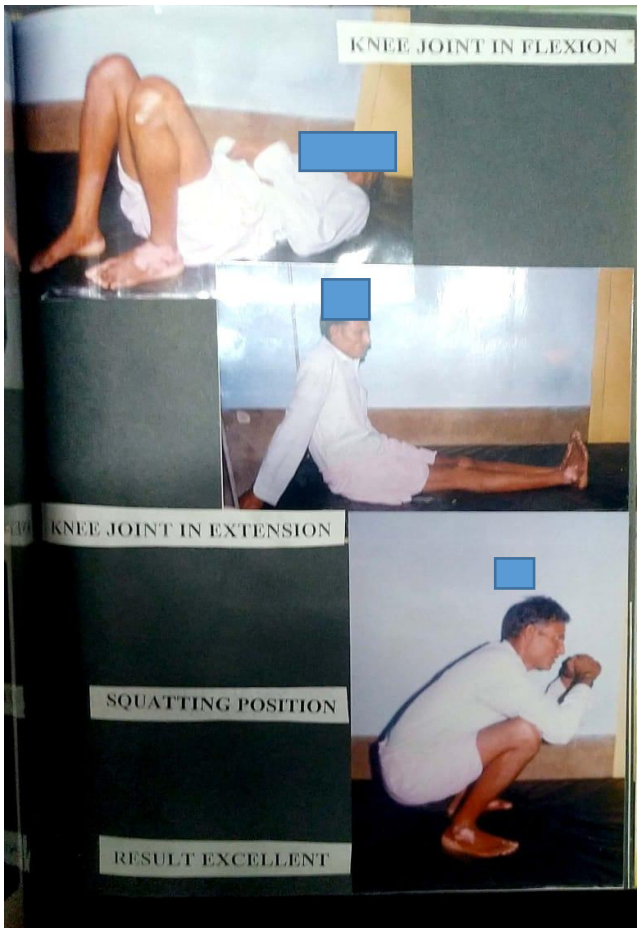
## Aims & Principles
1. To evaluate the rate of healing & complications if any.
2. To evaluate the functional end result.
3. To access the efficacy of the implant either lag screw alone or with buttress plate.

## Materials & Methods
A study of 30 cases of Tibial condylar fractures was done in Bangalore. For 3years. selection of cases for this study done based on willingness of the patient, to undergo surgery after prior approval.


SURGICAL PROCEDURES IN STEPS
SKIN INCISED SITE EXPOSED
CONFIRMATION WITH IMAGE INTENSIFIER


PRE OPERATIVE X-RAY
FOLLOW UP X-RAY


BONE GRAFTS
BUTTRESS PLATE AND SCREWS IN SITU
WOUND CLOSURE WITH DRAIN


KNEE JOINT IN FLEXION
KNEE JOINT IN EXTENSION
SQUATTING POSITION
RESULT EXCELLENT

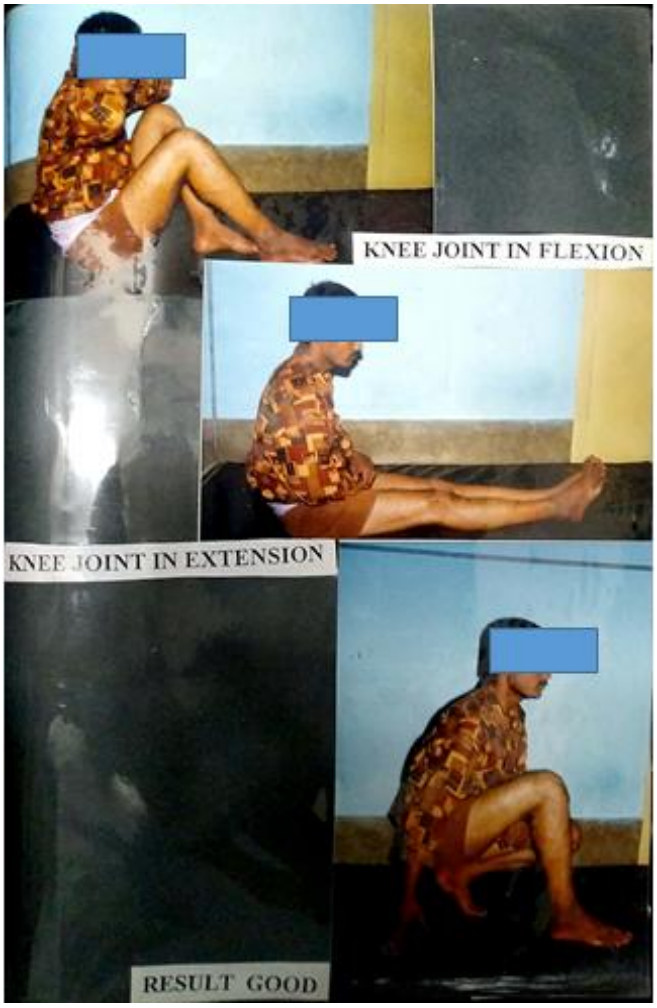




**Table 1:** Distribution of cases based on nature of trauma

| Mode of Violence | No of Cases | Percentage |
|---|---|---|
| Road traffic accident or Automobile accident | 21 | 70% |
| Fall | 7 | 23.33% |
| Fall of a tree branch over knee | 2 | 6.67% |
| Total | 30 | 100% |

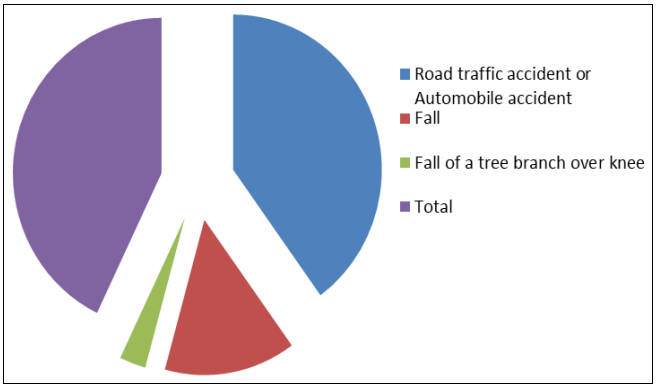



**Fig 1:** Mode of violence

**Table 2:** showing distribution according t the type of fracture to the percentage of occurrence

| Type of fracture | No of cases | Percentage |
|---|---|---|
| Type I | 0 | 0 |
| Type II | 9 | 30% |
| Type III | 2 | 6.67% |
| Type IV | 8 | 26.67% |
| Type V | 7 | 23.33% |
| Type VI | 4 | 13.33% |
| Total | 30 | 100% |

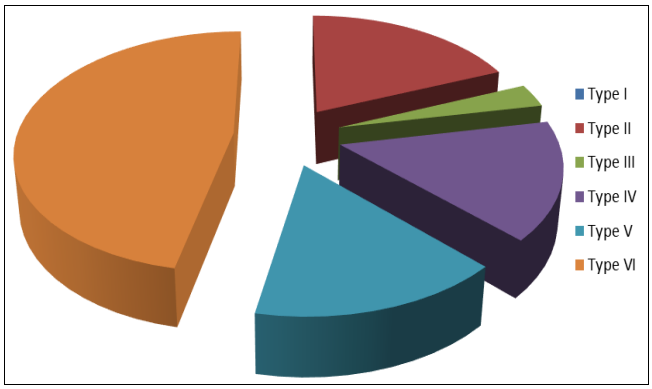



**Fig 2:** Type of Fracture

## Discussion

In this study attempt has been made to analyze the results of surgical management of 30 cases of Tibial plateau fractures. 30 patients, 26 were males, 4 were females. Youngest was 20yr old, 55yr old was eldest. Average was 35 years. In our study the occupation of the patients as businessmen was n majority of the cases .other occupations in descending order was as follows, laborer's, agriculturists, drivers etc. list indicates all the groups which are active, travelling & hard working people leading the list. As businessmen are indulging in travelling to earn their livelihood, they are likely to be involved in RTA the most common mode of injuries in our study series. RTA is major mode of violence, history of fall is next most common.

## Result

Study of 30 cases with Tibial fractures.30 cases were treated surgically were followed up & compared to Schatzkers study series conducted in university of Toronto. 8 had excellent, 18 good & 4 had fair or nil poor results.

## Conclusion

The tibial plateau fracture in this study series have all united inspite of deep infection in 2cases & loss of reduction in the other 2.

Majority of cases had excellent to good functional end results with reference to pain, walking capacity, movements, stability & squatting.

Buttress plate with lag screw fixation produces stable fixation than lag screw alone especially in unstable fractures like Schatzkers type IV, V, VI. However lag screw offers good fixation in Schatzkers type II & type III fractures.

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