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### Key Words

Schatzker, lysholm knee society scoring (LKSS), LCP, ramussen radiology grading (RRG)

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## Functional Outcome of Tibial Plateau Fractures Schatzker Type 4-6 Fixed with Locking Plates: A Prospective Study

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### ABSTRACT

Tibial plateau fractures require anatomical reduction of joint surface and functional restoration of mechanical axis of the lower limb. Patient profile, soft tissue conditions, presence of associated injuries and the available infrastructure for the treatment, contribute to the decision making about the best treatment for these fractures. High-energy fractures are usually approached in a staged manner respecting the principle of damage control. Hence the present prospective study gives the functional outcome of tibial plateau fractures treated with locking compression plates (LCP) in Schatzker type 4-6 tibial plateau fractures. About 30 patients diagnosed with tibial plateau fracture, who met the inclusion criteria during the study period of September 2019 to May 2021, were recruited into the study. The patients were treated with locking compression plates and followed postoperatively for functional outcome. The outcome had been measured using the Rasmussen radiological grading and Lysholm knee scoring system. In this study, with patients of varied age groups involved, with male to female ratio of 23:7 with Right side most commonly involved. Road Traffic Accidents (RTA) was the Rasmussen radiological score was 16.1 and average Lysholm knee scoring was 92.7. As majority of patients in this study had a good to excellent outcome, tibial plateau fractures treated with Locking Compression Plate proves to have excellent functional outcome and it is the most opted method for treating tibial plateau fractures.

## INTRODUCTION

Proximal tibial fracture attains importance owing to its contribution in general population, complexity nature and impairment which it produces if neglected. It can result from either direct axial or indirect coronal compressive forces<sup>[1]</sup>. Motor vehicle accidents and bumper strike injuries are more common among young adults whereas a simple fall can lead to Tibial Plateau fractures in elderly.

Tibial plateau fractures are generally classified according to the method developed by Schatzker. Schatzker type V and VI fractures are high-energy fractures often accompanied by other local and systemic injuries. High-energy tibial plateau fractures remain a challenge to orthopaedic surgeons, with the bicondylar type (Schatzker type V) and the comminuted type (Schatzker type VI) fractures being the most difficult to treat<sup>[2]</sup>.

Despite many advances in the treatment of intra-articular fractures, Tibial Plateau fractures continue to be a difficult surgical problem. The failure of the treatment are usually due to residual pain, stiffness, deformity, recurrent effusion and instability. Review of over 140 cases of these fractures treated by both closed and operative methods has shed light on the reason for the failures.

The treatment of high energy tibial plateau fractures aims at preventing the infection, malalignment and loss of fixation<sup>[3]</sup>. By preventing these complications the patients may have a better functional outcome of the affected knee joint.

The controversy of Surgical vs Conservative management for high velocity tibial plateau fractures is overcome by enlightening the goals for operative management which are anatomic reduction, restoration of articular congruity and alignment, stable knee fixation to allow early knee motion.

The management techniques available for high energy tibial plateau fractures are skeletal traction, cast immobilization, circular external fixator, hybrid external fixator, open reduction, reduction and internal fixation with conventional plates and locking compression plates.

Among wide spectrum of operative management Locking plates is preferred as it has its own advantages when compared to other modalities of treatment such as Hybrid external fixator, Ilizarov fixation etc.

The advent of LCP system for treating complex tibial plateau fractures provided excellent outcomes both in terms of clinical outcome and radiological congruity<sup>[4]</sup>.

## MATERIALS AND METHODS

**Study site:** The patients were treated and followed up in Indira Gandhi Government General Hospital and Post graduate Institute, Puducherry.

**Study population:** Patient of age 20 years and above who sustained tibial plateau fractures, admitted in Orthopaedic Department in our hospital form the study population.

**Study design:** Our study is a prospective study.

**Sample size:** Our study had a sample size of 30.

**Sample size calculation:** Sample size was calculated using G-power software and using the t test for difference from constant mean. A pilot study with 5 people was done from which the calculated mean and standard deviation was found as 114 and 13, respectively. Assuming alpha error as 0.05, power of study as 95% and effective size 0.6, a sample size of 30 patients was found to be statistically significant in obtaining study results.

**Study period:** Study period was from September 2019- May 2021.

### Inclusion criteria:

- Patient with Tibial plateau fracture Schatzker type 4-6, sustaining high velocity injuries
- Closed injuries
- Age more than 20 years
- All patients with fracture of less than 2 weeks of duration.

### Exclusion criteria:

- Patients with open fractures
- Patients with head injury or polytrauma
- Patient who are unfit for surgery or not willing for surgery
- Patients who are non compliant for followup
- Skeletally immature patients and those with pathological fractures

**Ethical considerations:** Approval from both Ethical and Scientific committee was obtained in Indira Gandhi Government General Hospital and Postgraduate Institute. The details of the study and the follow up protocols were clearly explained to patients prior to the treatment and they were included in the study after obtaining informed written consents.

### Preoperative assessment

#### Investigations:

- Routine blood investigations including complete blood count, ESR
- Blood grouping, Rh typing: Blood urea, serum creatinine, random blood sugar

- Viral markers including Hbsag, HIV, anti-HCV were done
- Liver function tests with PT and INR were done
- ECG and cardiac fitness for surgery
- X rays and CT scans
- Pre Anaesthetic checkup and fitness for surgery

**Planning for lcp fixation:** Based on the individual fracture pattern, the length of plates and screws needed were measured.

The comminuted fractures were studied with 3D Reconstructed CT images and proper planning for fixation has been done preoperatively. The length and pattern of the tibial plateau were assessed both clinically and radiologically.

**Operative procedure:** All cases were operated under pneumatic tourniquet and standard pre-operative protocols were followed. Spinal with epidural anaesthesia were given to all patients.

The patients were placed in a supine position and legs were placed according to the approach used. The C-arm adequately positioned leaving space for surgeons to operate. The locking plates and screws with appropriate length along with surgical instruments were kept ready.

The patients were given spinal anaesthesia and in patients with bicondylar fracture where surgical duration is long Epidural anaesthesia was given. The epidural catheter was removed on 2nd postoperative day (Photo 1 and 2).

**Surgical techniques:** After giving anesthesia the parts preparation and draping done. Medial tibial plateau fractures were approached through standard posteromedial approach and lateral tibial plateau fractures were approached through standard anterolateral approach. The fracture fragments were fixed with locking compression plates and screws. In bicondylar fractures plates were fixed in both medial and lateral aspects. Reduction of fracture and articular congruity checked under fluoroscopy. Post operative care was given according to standar protocol.

**Postoperative followup:** Postoperatively the patients were followed on 2nd, 6th week, 3rd and 6th month regularly. Patients who had specific complaints were followed in between. The following things were noted

- Healing of surgical scar
- Range of motion
- Presence of pain, instability
- Radiological features like union, maintenance of fracture reduction
- Varus and valgus collapse



Photo 1: Epidural anaesthesia



Photo 2: Locking plates and screws:

The clinical and radiological features were assessed during each visits. Full weight bearing was started after union of fracture site and it ranged from 12-16 weeks. The patients were followed upto 6 months and finally assessed using Modified Rasmussen scoring and Lysholm Knee scoring system.

**Assessment of knee pain:** Assessment of pain was done according to Lysholm knee scoring system. Patients were asked to weight bear and do activities and assessed to what extent the activities was impaired by pain. They were graded from no pain or pain while doing vigorous activities to constant pain in the affected knee.

**Measurement of range of motion:** The flexion and extension of the operated limb was assessed and calculated using goniometer. The ability of the patient squat was assessed and accordingly graded. The ability to climb stairs and assessment of power of muscles like quadriceps were tested. The range of movements were

Table 1: Rasmussen radiologic assessment criteria<sup>[2]</sup>

	Subjective	Score
Articular depression	none	6
	<5 mm	4
	6-10 mm	2
	>10 mm	0
Condylar widening	none	6
	<5 mm	4
	6-10 mm	2
	>10 mm	0
Varus and valgus angulation	none	6
	<10°	4
	10°-20°	2
	>30°	0
Score	Maximum	18
Outcome	Excellent	18
	Good	11-17
	Fair	6-11
	Poor	>6

assessed in the 6th, 12th week and 6th month postoperatively. The range of movements were compared to the normal side.

Patients with knee stiffness were followed regularly and physiotherapy given to improve the range of movements. Patients were encouraged to improve active range of movements through regular followups.

Based on the above criteria the radiological articular depression, condylar widening, varus and valgus angulations were calculated and scoring done (Table 1).

Each patients were followed and radiologically assessed using Rasmussen score with the above mentioned criterias.

#### Lysholm knee scoring system<sup>[5]</sup>:

- **Section 1: LIMP:**
  - I have no limp when I walk (5)
  - I have a slight or periodical limp when I walk (3)
  - I have a severe and constant limp when I walk (0)
- **Section 2: Support:**
  - Using cane or crutches I do not use a cane or crutches (5)
  - I use a cane or crutches with some weight-bearing (2)
  - Putting weight on my hurt leg is impossible (0)
- **Section 3: Locking sensation in the knee:**
  - I have no locking and no catching sensation in my knee (15)
  - I have catching sensation but no locking sensation in my knee (10)
  - My knee locks occasionally (6)
  - My knee locks frequently (2)
  - My knee feels locked at this moment (0)

Table 2: Grading of lysholm knee score

65	Poor
65-83	Fair
84-90	Good
>90	Excellent

- **Section 4: Giving way sensation from the knee:**
  - My knee gives way (25)
  - My knee rarely gives way, only during athletics or vigorous activity (20)
  - My knee frequently gives way during athletics or other vigorous activities. In turn I am unable to participate in these activities (15)
  - My knee frequently gives way during daily activities (10)
  - My knee often gives way during daily activities (5)
  - My knee gives way every step I take (0)
- **Section 5: Pain**
  - I have no pain in my knee (25)
  - I have intermittent or slight pain in my knee during vigorous activities (20)
  - I have marked pain in my knee during vigorous activities (15)
  - I have marked pain in my knee during or after walking more than 1 mile (10)
  - I have marked pain in my knee during or after walking less than 1 mile (5)
  - I have constant pain in my knee (0)
- **Section 6: Swelling:**
  - I have swelling in my knee (10)
  - I have swelling in my knee only after vigorous activities (6)
  - I have swelling in my knee after ordinary activities (2)
  - I have swelling constantly in my knee. (0)
- **Section 7: Climbing stairs:**
  - I have no problems climbing stairs (10)
  - I have slight problems climbing stairs (6)
  - I can climb stairs only one at a time (2)
  - Climbing stairs is impossible for me (0)
- **Section 8: Squatting:**
  - I have no problems squatting (5)
  - I have slight problems squatting (4)
  - I cannot squat beyond a 90deg. Bend in my knee (1)
  - Squatting is impossible because of my knee (0)

Our study subjects were examined and meticulously assessed the functional scoring using Lysholm knee scoring. They were graded with poor, fair, good and excellent functional outcomes based on their score (Table 2).

**Statistical analysis:** The data were analysed using both descriptive and inferential statistics. All statistical analysis were carried out through SPSS 20, p value less 0.05 was accepted as statistical significant.

## RESULTS

Our study had 63.3% patients in the 21-40 years age group who are more prone to road traffic accidents with tibial plateau fractures (Table 3 and Fig. 1).

Our study group had 23 male patients and 7 female patients out of total 30 patients (Table 4 and Fig. 2).

In this study, out of 30 cases, 63% of the patients sustained injury on the right side and 37% of the patients had injury on the left side (Table 5).

In this study, majority of the cases were found to be of type 6 fracture types (60%), followed by type 5 fracture type (30%) and type 4 fracture type (10%) (Table 6).

Out of 96.7 patients in this study had good and excellent scores.

Table 3: Age distribution of the study

Age	Frequency	Percentage
21-40	19	63.3
41-60	9	30
>60	2	6.67
Total	30	100

Table 4: Gender distribution in our study

Gender	Frequency	Percentage
Male	23	76.7
Female	7	23.3
Total	30	100.0

Table 5: Side of injury in our study

Side	Frequency	Percentage
Right	19	63.3
Left	11	36.7
Total	30	100.0

Table 6: Fracture types

Fracture	Frequency	Percentage
Type 4	3	10.0
Type 5	9	30.0
Type 6	18	60.0
Total	30	100.0

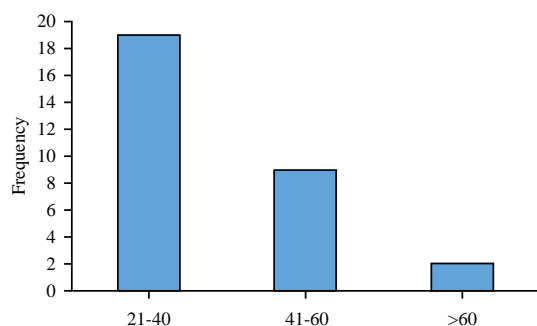


Fig. 1: frequency of age distribution

In Table 7, 46.7% had and 50% patients had good results. RTA is the most common cause of tibial plateau fracture in our study (Table 7-19 and Fig. 3-16).

## DISCUSSION

**Age:** In the present study, on evaluation of the age distribution it was found that out of 30 cases, 19 patients were between 21-40, 9 patients were aged between 41-60, 2 patients were aged more than 60 years with mean age of 37.6 years (Table 20).

Table 7: Approaches used

Approach	Frequency	Percentage
Posteromedial & Anterolateral	3	10.0
Posteromedial	27	90.0
Total	30	100.0

Table 8: Lysholm knee scoring

Lysholm Knee score grade	Frequency	Percentage
Fair	1	3.3
Good	6	20.0
Excellent	23	76.7
Total	30	100.0

Table 9: Rasmussen score

Rasmussen Grade	Frequency	Percentage
Excellent	14	46.7
Good	15	50.0
Fair	1	3.3
Total	30	100.0

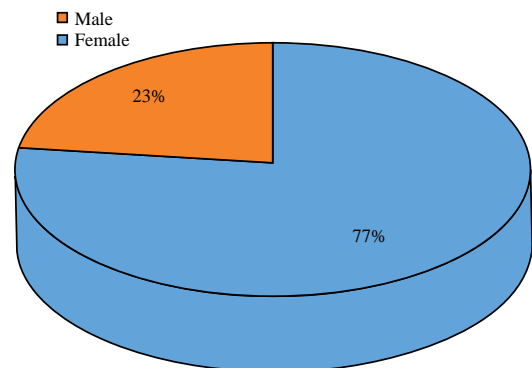


Fig. 2: Gender distribution in our study

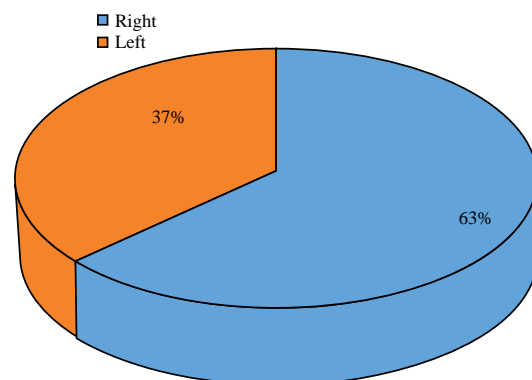


Fig. 3: Side distribution graph

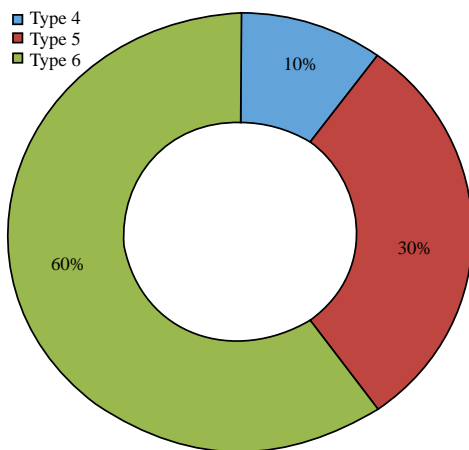


Fig. 4: Distribution of fracture type

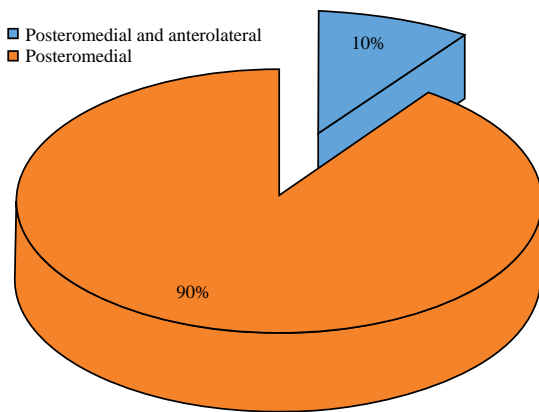


Fig. 5: Approaches used in our study

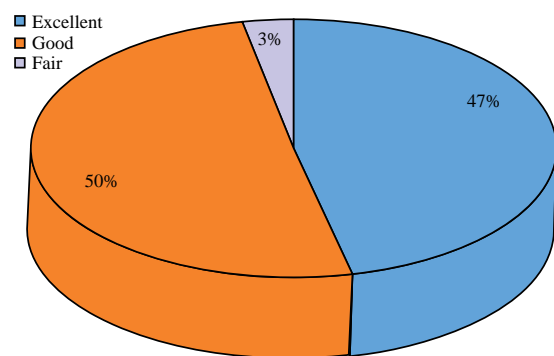


Fig. 6: Lysholm knee score graph

Table 10: Knee stiffness

Knee stiffness	Frequency	Percentage
Present	2	6.7
Absent	28	93.3
Total	30	100.0

Table 11: Mode of injury

Mode of injury	Frequency	Percentage
RTA	27	90.0
FALL	3	10.0
Total	30	100.0

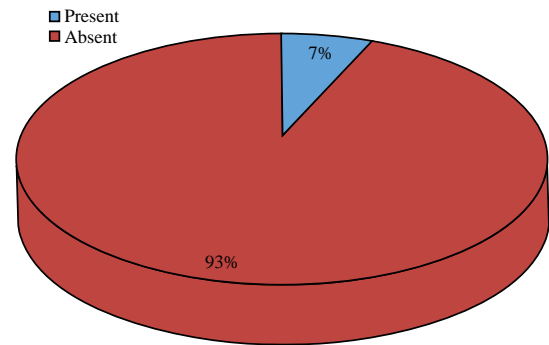


Fig. 7: Rasmussen score graph

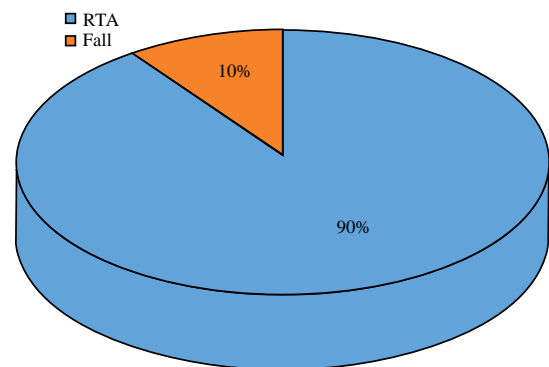


Fig. 8: Postoperative complications in our study

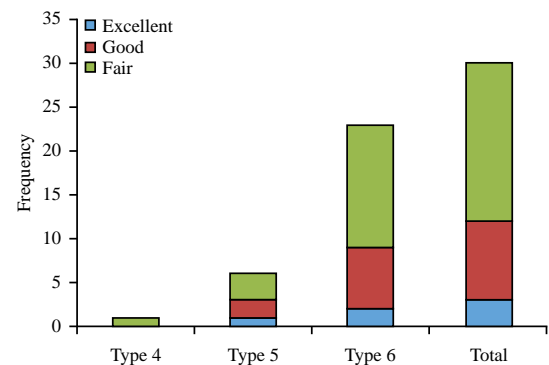


Fig. 9: Modes of injury comparison chart

In the study of Unnikrishnan *et al.*<sup>[6]</sup> observed that maximum subjects were in 30-39 age groups and the mean age was 37.2 years.

In the study of Kulkarni *et al.*<sup>[3]</sup> had mean age of 31.7 years which is in comparison with the study of Reddy *et al.*<sup>[4]</sup> tibial plateau fractures observed that the mean age of the study group was 40.4 years.

**Sex distribution:** In our study of total of 30 patients, 23 patients were males (76.7) and 7 were female (23.3).

In the study of Jain *et al.*<sup>[7]</sup> male patients with 80% which is in line with our study (Table 21).



Table 12: Lysholm knee scoring according to fracture types

Lysholm Knee Score Grade	Fracture type					
	Type 4		Type 5		Type 6	
	No.	Percentage	No.	Percentage	No.	Percentage
Fair	0	0.0	0	0.0	1	5.6
Good	1	33.3	2	22.2	3	16.7
Excellent	2	66.7	7	77.8	14	77.8
Total	3	100.0	9	100.0	18	100.0

Table 13: Rasmussen Score

Rasmussen grade	Fracture type					
	Type 4		Type 5		Type 6	
	No.	Percentage	No.	Percentage	No.	Percentage
Excellent	2	66.7	3	33.3	9	50.0
Good	1	33.3	6	66.7	8	44.4
Fair	0	0.0	0	0.0	1	5.6
Total	3	100.0	9	100.0	18	100.0

Table 15: Mode of injury according to fracture types

Mode of injury	Fracture type					
	Type 4		Type 5		Type 6	
	No.	Percentage	No.	Percentage	No.	Percentage
RTA	3	100.0%	8	88.9%	16	88.9%
FALL	0	0.0%	1	11.1%	2	11.1%
Total	3	100.0%	9	100.0%	18	100.0%

Table 15: Variables used in our study with their mean value

Variables	Mean	SD	Minimum	Maximum
Age	37.6	13.1	21.0	68.0
Lysholm Knee Score	92.7	5.2	77.0	100.0
Rasmussen score	16.1	2.4	10.0	18.0
Time of union in weeks	13.2	1.8	11.0	17.0
Time delay before surgery	4.8	2.0	3.0	9.0
Range of movements	119.6	2.9	115.0	125.0

Table 16: Variables used in our study with their mean value

Fracture types	No.	Mean lysholm knee score	Standard deviation	ANOVA test p-value
Type 4	3	93.000	7.0000	0.895
Type 5	9	93.333	4.4721	
Type 6	18	92.333	5.4557	
Total	30	92.700	5.1538	

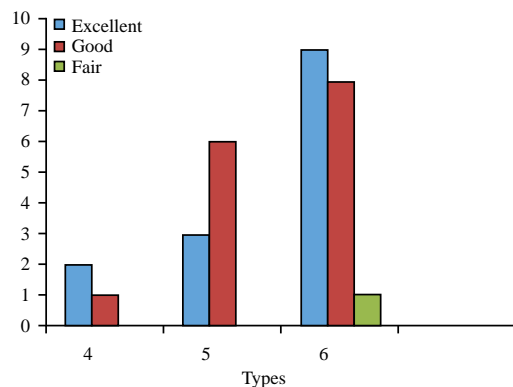


Fig. 15: Lysholm knee scoring graph

Vasanad *et al.*<sup>[8]</sup> studied tibial plateau fractures which had 90% males in their study-2013.

In the study of Sament *et al.*<sup>[9]</sup> tibial plateau fracture, 86% were male patients and 14% were female patients-2012.

In the study of Raza *et al.*<sup>[10]</sup> tibial plateau fracture, 85% were males and 15% were females-2012.

**Mode of injury:** Road traffic accidents was the most common cause of tibial plateau fractures in our study

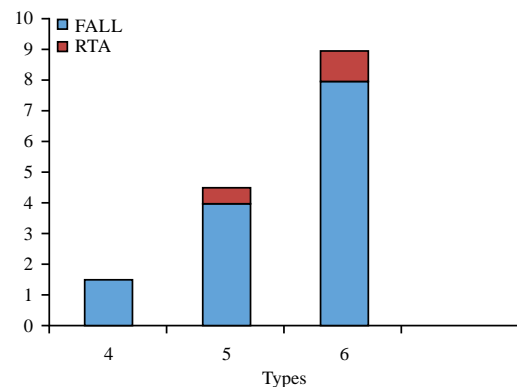


Fig. 16: Comparison graph of rasmussen score

with 27 patients (90%) sustained injury due to road traffic accidents compared to 3 patients who sustained injury due to fall (Table 22).

Swarup *et al.*<sup>[11]</sup> noted in their study in 2016 which had road traffic accidents as 89% cause of injury-2016. Jain *et al.*<sup>[7]</sup> observed that road traffic accidents were found to be the most common mode of injury which is 70.69% as compared to other mode of injuries-2016.

Table 17: Variables used in our study with their mean value

Fracture types	No.	Mean rasmussen score	Standard deviation	ANOVA test p-value
Type 4	3	16.000	3.4641	0.910
Type 5	9	15.778	2.3333	
Type 6	18	16.222	2.4628	
Total	30	16.067	2.4344	

Table 18: Variables used in our study with their mean value

Fracture type	No.	Mean time of union in weeks	Std. Deviation
Type 4	3	13.333	2.5166
Type 5	9	13.222	1.7873
Type 6	18	13.222	1.8647
Total	30	13.233	1.8323

Std: Standard deviation

Table 19: Variables used in our study with their mean value

Fracture type	No.	Mean range of movements	Std. deviation
Type 4	3	119.667	3.0551
Type 5	9	118.556	3.0046
Type 6	18	118.667	2.9506
Total	30	118.963	2.8706

Table 20: Age distribution

Study group	Mean age (years)
Unnikrishnan <i>et al.</i> <sup>[6]</sup>	37.2
Kulkarni <i>et al.</i> <sup>[3]</sup>	31.7
Reddy <i>et al.</i> <sup>[4]</sup>	40.4
Present study	37.6

Table 21: Sex distribution

Study group	Incidence in males
Jain <i>et al.</i> <sup>[7]</sup>	80%
Vasanad <i>et al.</i> <sup>[8]</sup>	90%
Sament <i>et al.</i> <sup>[9]</sup>	86%
Raza H <i>et al.</i> <sup>[10]</sup>	85%
Present study	76.7%

Table 22: Mode of injury

Study group	Mode of injury-RTA
Swarupet <i>et al.</i> <sup>[11]</sup>	89%
Jain <i>et al.</i> <sup>[7]</sup>	70.69%
Khare <i>et al.</i> <sup>[12]</sup>	90.7%
Present study	90%

Table 23: Type of fractures

Study group	Incidence of schatzker type 4-6
e Albuquerque <i>et al.</i> <sup>[14]</sup>	48%
Barie <i>et al.</i> <sup>[15]</sup>	45%
TCSK Kumar <i>et al.</i> <sup>[16]</sup>	66.7%

Table 24: Injury- surgery interval

Study group	Injury-surgery interval
Kulkarni <i>et al.</i> <sup>[3]</sup>	6.9
Present study	4.8

Table 25: Time of union in weeks

Study group	Mean time of union (weeks)
Abishek <i>et al.</i> <sup>[17]</sup>	15.2
Kulkarni <i>et al.</i> <sup>[3]</sup>	14.7
Citak <i>et al.</i> <sup>[18]</sup>	14
Present study	13.2

Table 26: Range of movements

Study group	Mean range of movements
Hsu <i>et al.</i> <sup>[19]</sup>	120
Thimmegowda <i>et al.</i> <sup>[13]</sup>	120
Mankar <i>et al.</i> <sup>[20]</sup>	122.6
Present study	119.6

Khare *et al.*<sup>[12]</sup> studied the tibial plateau fractures in which the most common cause was road traffic accidents with 90.7% which is in comparison with our study-2019.

**Side affected:** In our study of tibial plateau fractures with 30 patients, Right side was involved in 19 patients which was 63.3% and left side included 11 patients which was 36.7%.

Thimmegowda *et al.*<sup>[13]</sup> noted right sided fracture is 50% and left sided fracture is 50%-2005 (Table 23).

**Type of fractures:** In our present study we had 18 patients of type 6 schatzker fractures which is 60%, 9 patients with type 5 tibial plateau fractures which is 30%, 3 patients with type 4 tibial plateau fractures which includes 10% (Table 24).

e Albuquerque *et al.*<sup>[14]</sup> had in their study of 48% of patients with high velocity injuries-2013.

Barie *et al.*<sup>[15]</sup> studied tibial plateau fractures with posteromedial component which had 45% with high velocity injuries-2008.

Prem *et al.*<sup>[16]</sup> studied tibial plateau fractures which had 66.7 patients with schatzker type 6 fractures of high velocity type.

**Injury-surgery interval:** The average duration between the time of injury and surgery was 4.8 days in our study. The minimum interval was 3 days whereas the maximum interval was 9 days (Table 24).

Kulkarni *et al.*<sup>[3]</sup> observed the average time interval between admission in hospital and definitive surgery was 6.9 days-2017.

**Time of union in weeks:** The mean time of union of fractures in our patients were 13.2 weeks with SD of 1.8. The minimum period of union was 11 weeks and maximum period was observed as 17 weeks (Table 25).

Abishek *et al.*<sup>[17]</sup> conducted a study in which the mean time of union of fracture was 15.2 weeks which is in line with our study.

Kulkarni *et al.*<sup>[5]</sup> noted average mean time of union was 14.7 weeks which is comparable with our study.

Citak *et al.*<sup>[18]</sup> had an average mean time of 14 weeks for the union of tibial plateau fractures which is in comparison with our study.

**Range of movements:** In our study the range of movements with flexion of the operated limb was assessed. The mean range of movement was 119.6 with SD value of 2.9 in our study at the final assessment of 6 months. Patients in our study had range of movements between 115-125 degrees of flexion (Table 26).



Hsu *et al.*<sup>[19]</sup> noted in their study of tibial plateau fractures with average range of movement of flexion as 120 degree-2001.

Thimmegowda<sup>[13]</sup> noted in their study of tibial plateau fractures, the average range of movement of flexion is 120 degree-2005.

Mankar *et al.*<sup>[20]</sup> observed in their study of tibial plateau fracture, the average range of movement is 122.60 degree-2012.

**Rasmussen score:** The patients in our study were followed up and radiologically assessed using Rasmussen score based on articular congruity, varus valgus angulation. The mean score in our study was 16.1 with SD value of 2.4. More than 90% patients had excellent and good results which were acceptable.

Jati *et al.*<sup>[21]</sup> studied tibial plateau fractures fixed with locking compression plates and noted almost all patients had excellent and good functional outcome.

Dindivanam *et al.*<sup>[22]</sup> studied tibial plateau fractures fixed with locking compression plates and 82% patients had excellent and good functional outcome.

Raza *et al.*<sup>[10]</sup> in their study of tibial plateau fracture observed that the mean Rasmussen functional score was 25.3 -2012.

Rohra *et al.*<sup>[23]</sup> noted in their study of tibial plateau fractures with 34 patients showed final outcome of 85.29% excellent functional score-2016.

**Lysholm knee scoring system:** On their followup of patients in our study the operated knee functional scoring was done. About 23 out of 30 patients had excellent outcome.

Naveen *et al.*<sup>[24]</sup> studied tibial plateau fractures fixed with locking plates had 18 patients out of 30 patients had excellent outcome.

Roy *et al.*<sup>[25]</sup> in 2021 studied tibial plateau fractures of 20 patients and noted 72% excellent functional outcome which is in comparison with our study.

#### LIMITATIONS OF THE STUDY

The follow up time was limited to 6 months, where long term follow up of the patient was not possible. The main limitations of the above study were short study period and study involving single centre. Hence there is non generalizability of the study.

#### CONCLUSION

In our study which was conducted between September 2019 to MAY 2021, 30 patients with tibial plateau fractures were admitted in Department of Orthopaedics, Indira Gandhi Government General Hospital and Postgraduate Institute. Patients of various

age groups with mean age of 37.6 of Schatzker type 4 to type 6 tibial plateau fractures were treated with locking compression plating and were followed upto 6 months postoperatively to assess the functional outcome. About 19 patients were between 21-40 years of age. About 9 patients were between 41-60 years and 2 patients were above 60 years of age. Out of 30 patients, 23 patients were males and 7 patients were females. Right side was the most affected side among the study population. Road traffic accident was found to be the most common cause of injury in our study. Of the 30 patients studied, 18 sustained type 6 Schatzker fracture, 9 patients sustained type 5 and 3 patients presented with Schatzker type 4 fracture. All patients were preoperatively assessed and operated. Fractures were fixed with locking compression plate. Patients were followed in the postoperative period and functional outcome assessed using Lysholm knee scoring and Modified Rasmussen radiological scoring system. Out of 30 patients 23 patients had Excellent outcome, 6 patients had Good outcome 1 patient had Fair outcome through Lysholm knee scoring system. The mean Lysholm knee scoring was found to be 92.7. Through modified Rasmussen radiological criteria 14 patients had Excellent score, 15 had Good score, 1 had FAIR outcome. The mean Rasmussen score was found to be 16.1. In our study, 2 patients had postoperative knee stiffness. No other complications were noted in other patients. The time of union of fractures were between 11-17 weeks with a mean time of 13.2 weeks. The range of movement in our subjects were assessed at 6 months of postoperative period and mean range was found to be 119.6 degree of flexion. Thus we conclude that tibial plateau fractures treated with Locking Compression plates have excellent functional outcome.

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