



## BICONDYLAR TIBIAL PLATEAU FRACTURES; INTERNAL OR EXTERNAL FIXATION ?

Dr Vijaykumar Angadi, Prof.(Dr.) M.Shantharam Shetty, Dr.M. Ajithkumar

Tejasvini hospital & SSIOT, Mangalore, India

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### INTRODUCTION

- Fractures involving the proximal tibia affect the function and the stability of the knee. These are frequently encountered in day to day practice.
- Aim of the management of these fractures is to restore and preserve functional, pain free range of movements in the knee by accurate anatomical restoration of the articular surfaces of the tibial condyles
- Most important factor in management of these fractures is soft tissue status
- Management of these fractures is always debatable whether internal or external fixation is better when soft tissue status is questionable

### OBJECTIVES

- To study the functional outcome of Schatzker's type V & type VI tibial plateau fractures treated with internal and external fixation

- To compare the functional outcome of tibial plateau fractures treated with internal or external fixation one with other and to analyze which modality is better
- To rationale the indications for each method of treatment

### MATERIALS AND METHODS

- A retrospective-prospective study from September 2010 to November 12 with tibial plateau fractures type V and VI admitted in Tejasvini hospital & SSIOT . A total of 57 patients were included in study , among these 32 were type V and 25 were type VI
- We used plate osteosynthesis in 40 pts (Single/Dual/MIPPO) and Mini-open reduction Hybrid external fixation in 17pts in patients with bad soft tissue conditions like blisters, swelling and high ESR

Table 1:

PLATING	SINGLE PLATE	17
	DUAL PLATE	9
	MIPPO	14
MINI-OPEN REDUCTION AND HYBRID EX-FIX		17

**Results**

Clinical evaluation done using Rasmussens score at 3months, 6months and 12 months ;

**Table 2**

		Excellent	Good	Fair	Poor
Plating	3 months	0	19	20	1
	6months	0	31	8	1
	12 months	7	26	6	1
Hybrid	3 months	0	9	6	2
	6months	0	13	2	2
	12 months	5	8	2	2

- Results were compared and p value was found to be >0.05 which is not significant
- Among plating group we had four infections , one skin problem and in hybrid group one patient with non union

**Discussion**

- The management of these fractures balance between achieving best reduction, stable fixation on one side and avoiding the potential complications on the other side, selection of the treatment option has been a challenge to the orthopaedic surgeon
- Since the soft tissue complications were more by using open reduction , the technique called MIPPO using plate which involves minimal soft tissue stripping and allows for biological healing
- The external fixators were initially used for temporary stabilization, Since the development of circular and hybrid frames, the capability of axial, lateral compression and dynamization, the development of olive wires have offered new possibilities to the external fixators for the treatment of complex fractures
- Type V and type VI fractures treated with either plate osteosynthesis or mini open reduction and hybrid external fixation both were comparable functional outcome with infection complication in plating group and Non union and pin tract infection in hybrid group
- We suggests the use of MIPPO and mini open reduction - hybrid external fixation technique equally alternative treatment for complex plateau fractures especially if it is due to high energy trauma with bad skin where dual plate osteosynthesis associated with more complications

Case photographs -

Case 1

55 yr Male ; H/O RTA; Type 5 Fracture

Pre-operative x ray



Immeadiate



3months



12months



Case 2

51yr Male Pt; H/O RTA; Type 5 fracture



Conclusion

- There is no significant difference between plate osteosynthesis and hybrid ex-fix group in functional outcome.
- Personality of fracture and soft tissue condition has to be studied to choose the correct mode of treatment to get better outcome