



INTRODUCTION

Tibial plateau fractures affect the general population in a bimodal distribution, resulting in a younger as well as elderly patient population. Main goals of treatment remain limb alignment with restoration of articular surfaces for both patient populations. It is well known that open reduction internal fixation is the gold standard for tibial plateau fractures. However, some have suggested an alternative method of management of this injury consisting of primary total knee arthroplasty.

CASE DESCRIPTION

We present an 88 year old female with past medical history of osteoarthritis of the right knee, osteoporosis, and glaucoma. She presented following multiple trauma after MVA. Her injuries most notably included right lateral tibial plateau fracture and left comminuted medial tibial plateau fracture with left knee lipoarthrosis. Patient underwent right tibial open reduction, internal fixation (ORIF) as well as closed treatment to the left tibia with left total knee arthroplasty. While patient remained toe-touch weight bearing to her RLE, she was weight bearing as tolerated to her LLE with aggressive left knee range of motion without restriction or bracing. On admission, patient required total assist for bed to wheelchair transfers and she was propelling a wheelchair for household distances with maximum assistance.

TREATMENT

Left Lower Extremity (TKR)	Right Lower Extremity (ORIF)
<ul style="list-style-type: none"> Weight bearing as tolerated Aggressive knee range of motion No braces needed 	<ul style="list-style-type: none"> Toe touch weight bearing for 8 weeks Hinged knee brace at all times 0 to 30 degrees right knee range of motion for 6 weeks

PERTINENT IMAGING



Figure 1: Lateral view of the right tibia status post open reduction internal fixation



Figure 2: Lateral and Anterior/Posterior views of the right knee status post total knee arthroplasty

TREATMENT OUTCOME

After a comprehensive inpatient rehabilitation course consisting of a combined three hours per day of Physical Therapy and Occupational Therapy, the patient was able to achieve a level of minimal assistance for bed to wheelchair transfers. She did not attempt ambulation due to weight bearing restrictions but was able to propel a standard wheelchair community distances with supervision and set up of leg rests. She was able to complete tub/shower transfers and bathing with minimal assistance. At the 4 week post-discharge follow up visit with physiatry, patient was bending her right knee to 100 degrees per home health therapists. After six weeks, her weight bearing restrictions to her right lower extremity (ORIF) were upgraded to 50% partial weight bearing, and she continued with home physical therapy. She was seen by her orthopedic surgeon at 10 weeks for follow up. At that time, she presented to the office ambulating with a rolling walker reporting 0/10 pain. At that time, she was upgraded to weight bearing as tolerated to the right lower extremity.

DISCUSSION

Our case demonstrates two separate approaches to similar fractures in one patient. While the mainstay of tibial plateau fractures remains ORIF, closed treatment with knee arthroplasty is a treatment modality that is gaining popularity in elderly patients with poor bone stock. ORIF in tibial plateau fractures has a well known sequela of post traumatic arthritis, often requiring arthroplasty as a salvage method, even when ORIF is successful. To this effect, knee arthroplasty following closed treatment is gaining popularity in elderly patients at high risk for osteopenia. Our patient did not attempt ambulation due to weight bearing restrictions. However, within three weeks of discharge, her weight bearing status for the RLE was upgraded to 50%, and she was referred to PT for further gait training.

REFERENCES

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