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Case Report

Aid in need - Manageable but not ideal a tale of knee replacement in distal femur fracture for early mobilisation

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ABSTRACT

We present a case of 70 year female who is a prior patient for knee arthritis at our clinic and who fell down and sustained a fracture in left distal femur over medial condyle. Patient demand was early mobilization. We discussed various options of management and advantages, disadvantages and complications. As per patient request planned for bilateral knee replacement with fracture stabilization. Postop recovery is monitored and patient recovered and is able to walk and satisfactory range of movement of both knee was achieved this case adds to the evidence that elderly distal femur fractures that can be replacement and made to walk as early as possible. Especially in scenarios of arthritis and fracture together.

Consent: Informed consent was obtained from the patient and family for the publication of the case report and all the figures included.

1. Introduction

Distal femur fracture are difficult to manage and difficult to heal specially in geriatric age group.[1] Osteoporosis is both cause of fracture and cause of delayed Healing or non-union in this age group.[2] Female population is more effected than male population with osteoporosis.[3] Most of female distal femur fractures happen with trivial fall.

Management of distal femur fractures is difficult in any age group.[1,4] Management of distal femur fractures with arthritis is more cumbersome. Options of management vary from screw fixation, single plating, and dual plating, hybrid fixation (nail and plate) to distal femur replacement. Geriatric age group poses many challenges to deal with any fracture. A lot of them have comorbid conditions like diabetes, hypertension, cardiac diseases, and venous diseases. To manage these cases and mobilize early is a dual edged sword.

2. Care Report

A 70-year female patient who is a regular patient of us presented to our emergency department following slip and fall in washroom at night. She has swelling in left knee and thigh, and she was unable to move after the fall. On evaluation and radiological assessment she sustained a distal femur medial condyle comminuted fracture and there is gross arthritis of knee joint. She has opposite knee arthritis also kellgren Lawrence grade 4. She is a hypertensive on medication. We advised her screw or plate fixation in view of fracture. We advised her 6 weeks restricted mobility in view of fracture and osteoporosis. We immobilized the limb temporarily in a long split. Patient returned to us 48 hours later with demand of early mobilization. We discussed all options with her and advised that in view of both fracture and arthritis reasonably better option would be constrained

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implant joint replacement. We discussed all the advantages, disadvantages, and cost of the surgery, morbidity and mortality details with patient and her husband. A team of Physician, Anesthstist, Orthopedic surgeon, physiotherapist and intensivist examined the patient and protocol was designed for her preop, intraop and postop management. We advised staged replacement of knee left followed by right side. Preoperative investigations revealed all parameters in normal range. We started her on clexane preop and stopped 12 hours prior to surgery then restarted it after 12 hours of surgery.

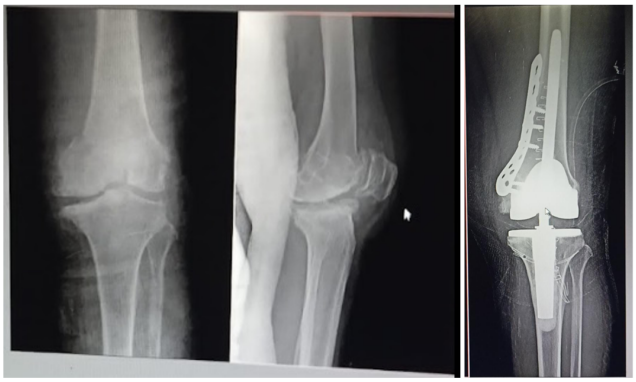

Fig. 1:

We opened left knee thru medial parapatellar approach and did plating for medial condyle femur. We proceeded with implant cuts with respective jigs for tibia and femur and trail of components revealed stable fracture fixation and stable flexion and extension of knee. We used a constrained hinge implant in view of medial condyle fracture. Postop she underwent blood transfusion. She was made to sit and stand under 6 hours post surgery. She was made to stand in 12 hours after surgery. Gait training was started 24 hours after surgery. Drain was removed 24 hours after surgery. On pod-1 her rom knee is 0 to 90 degree. She was comfortable and not in much pain. Forty eight hours later after 1 unit blood transfusion we operated her right knee with mobile bearing knee arthroplasty. Postop she was made to walk within 12 hours after surgery with help of a walker. Dressing was done and wound remained healthy. She continues to walk with walker and on postop day 5 we discharged her. At six months follow-up she is able to walk without any support and do her daily activities. Rom right knee – 120 degree and left knee 90 degree.

3. Discussion

Management of distal femur fractures in any age group is difficult and in geriatric age group osteoporosis makes it more difficult. Early mobilization carries major advantage in geriatric patients.[5,6] Complications in bedridden geriatric group have high morbidity and mortality.[7–9] Options of distal femur fractures in geriatric age group range from nailing, plating, hybrid (nail plate), bone grafting. In spite of all the above measures union is still a chance than confirmation. The idea of distal femur replacement in some of these cases arises from need of early mobilization and to prevent further complications.[10,11] Even though it's not ideal choice but acts as an aid in some cases. Be it either distal femur orif or replacement, both are considered major limb surgeries.[12,13] Surgical risk of embolism, blood loss, infection, wound problems are comparable in both procedures. Salazar et al., Rice et al., Hart et al. opine that distal femur replacement is not a definitive choice but an customized choice depending on various factors like age, co morbidities, bone quality, patient demands, patient lifestyle.

4. Conclusion

Distal femur fracture management in geriatric age group a decision that has to be made after including all factors majorly patient demands into consideration. Be it either fixation or replacement but patient lifestyle, demands and osteoporosis always to be considered.

5. Source of Funding

None.

6. Conflict of Interest

None.

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