ILIZAROV BONE TRANSPORT AND TREATMENT OF INFECTED CRITICAL-SIZED TIBIAL BONE DEFECT : A CASE REPORT

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Introduction: Infected or noninfected critical-sized bone defects of the tibia are complex injuries associated with significant problems that are difficult to treat,and they are associated with a significant burden of disease in clinical practice.CSBD are defined as those that will not heal spontaneously within a patient's lifetime.In the last decade,the induced membrane technique,also known as the Masquelet technique,the classic Ilizarov method,and the modification of the Ilizarov bone transport method have gained popularity.

Discussion: We have reported a case of floating knee with critical-sized bone defects over left proximal tibia with total loss of tibial tuberosity secondary to a high velocity motorvehicle accident in a 26-year-old policeman. Clinical examination revealed a massive open wound over left proximal tibia measuring 10cmx10cm with exposed tibia bone and patella tendon. CT left knee showed left tibial plateau fracture(Schatzer VI)with bone loss over left tibial tuberosity with subluxated left knee. Emergency wound debridement+left knee arthrotomy washout+K-wire left tibial plateau+left cross knee external fixation was done. Multiple surgical wound debridements were done and intra-operative tissue culture revealed Acinetobacter baumannii(MRO). Patient was subsequently treated with wound debridement +removal of external fixator+bone resection+ilizarov ring fixation+corticotomy+bone transport+gentacoll insertion over left proximal tibia with completion of IV Tazocin for 3 months duration. Surgical amputation of left lower limb was avoided. After 9 months of wound dressing and physiotherapy, wound well healed and patient able to ambulate with crutches however he developed stiff left knee.

Conclusion: Bone transport can be done through many devices like ring fixators, monolateral fixators or intramedullary nail systems. Each device has its own advantages and disadvantages. Ilizarov fixators have been in use for many years,but very few studies in the literature have focused on outcomes of ring fixators in infected or non infected CSBD of tibia treated with distraction osteogenesis. Radical debridement is the key step in controlling bone infection. Adequate operative planning can avoid surgical amputation as shown in this case study.