

Salvaging Infected Nonunion Of Proximal 3rd Femur With Modified Hybrid Limb Reconstruction Monorail System – A Case Report

¹Mohd Syukranamri Ramli; ¹Zamri Ab Rahman; ¹Norhaslinda Bahaudin; ¹Ahmad Arieff Atan

¹Department Orthopedic, Hospital Tuanku Jaafar, Seremban, Negeri Sembilan.

INTRODUCTION:

In cases of fracture non-union, analytical approach to the particular problem of each individual case according to the principles of the “diamond” concept is of paramount importance. The mechanical factor (adequacy of applied fixation); the local and systemic biological factors (healing potential, as well as the vascularity of the bone fragments and the local soft tissue envelope), alone or in combination could determine the prognosis of a fracture [1]. We would like to share our modification of construct on how we achieved stability of fixation with limited bone stock due to previous treatment.

REPORT:

41-year-old man involved in accident in 2020, which resulted in a severe left femur fracture. Initially, another hospital treated him with wound debridement and external fixation, but this was later changed to internal fixation with femur plate. Complications arose from a fracture related infection, necessitating multiple surgeries to remove the implants and clear the infection. In 2022, Limb Reconstruction System with Monorail was performed, but the proximal third of the femur fractured again after the monorail's removal.



FIGURE 1: X-Ray Of Patient Femur

His assessment shows limited ROM of right hip and knee with shortening of 6.5cm of femur. Well healed scar with sinus near fracture site. His

inflammatory marker was elevated. We decide to combine LRS Monorail with 2 femoral arches, to give multiplanar direction of HA pins that will be inserted at proximal fragment of femur.

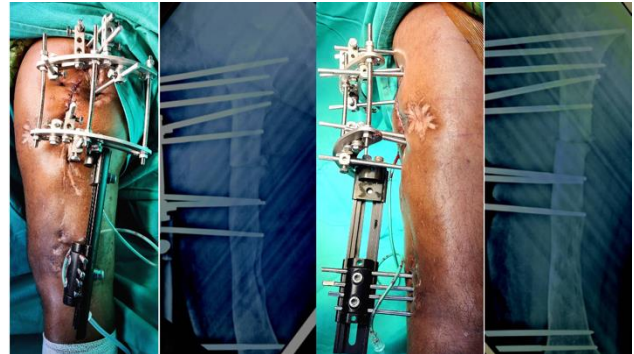


FIGURE 2: How The Construct Looks Like And X-Ray Post Fixation

His infection was treated according to culture and sensitivity. He was able to ambulate using crutches before discharged.



FIGURE 3: latest x-ray show union of proximal site, distal 3rd osteotomy done for lengthening procedure

CONCLUSION:

In this case, eradication of infection and adequate stability are the answer to achieve union. So, modification of construct is needed to achieve the goal.

REFERENCES:

1. Giannoudis PV. Enhancement of fracture healing with the diamond concept: the role of the biological chamber. *Injury* 2011;42(11):1191–3.