

Soft Tissue Lengthening with LLRS Followed by Intramedullary Nailing of Femur: A Case Report

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INTRODUCTION:

Lower limb discrepancy can cause physical limitation and also impairs function, expenditure and appearance¹. There are many causes, and trauma is a common correctable cause. The use of limb lengthening reconstruction system (LLRS) is quite common, but compliance is a major limitation. Here, we discussed a case of traumatic limb length discrepancy, initially treated with soft tissue lengthening, followed by definitive fixation later.

REPORT:

This is a case of an 18 year-old man involved in a motorvehicle accident and sustained closed comminuted fracture at midshaft of left femur, along with traumatic brain injury, multiple ribs and facial bone fracture. He was counselled for surgery but family at the time refused, and he was treated conservatively with skin traction followed by high groin cast.

During clinic appointment, xray shows malunion with overlapping of femur bone(Figure 1). Limb length discrepancy was 8 cm.

Patient only agreed for surgery 1 year later, where he was planned for 2 stage procedure; LLRS for soft tissue lengthening, followed by interlocking nail(ILN) femur.

During the first operation, intraoperatively callus at fracture site was removed to free the proximal and distal femur segment, and pins was inserted with femur in overlapped position without any bone shortening done(Figure 2).

2 months later, LLRS was removed and ILN femur was done. Fracture site was able to be reduced using open reduction.

During follow-up, limb length discrepancy was noted to be 2cm, with x-ray showing callus formation(Figure 3).



Figure 1: Xray at 1-month post-trauma

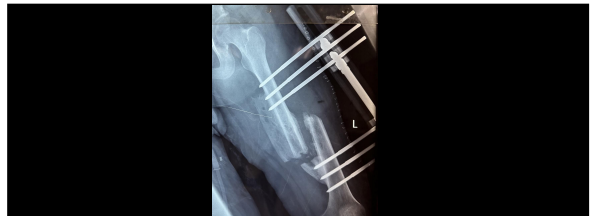


Figure 2: Post-operative LLRS X-ray



Figure 3: Post-operative ILN femur x-ray

CONCLUSION:

Limb length discrepancy requires us to address not just the bony component but also soft tissue component. The usage of LLRS is not only suitable for limb lengthening with docking but can also be used to lengthen the soft tissue, so that internal fixation can be done later.

REFERENCES:

1. Hasler et.a l, J Child Orthop. 2012 Jun.