

IMN For Large Femoral Bone Defect

¹Rapi A; ¹Amin-Tai N; ¹Chemok-Ali HA

¹Department of Orthopaedics, Hospital Sultan Idris Shah Serdang, Selangor, Malaysia.

INTRODUCTION:

Bone loss is a relatively uncommon encounter in treatment of fracture and usually occurs in femur and tibia. Fracture with bone loss can be treated with intramedullary nailing, external fixation with or without bone transport, intercalary structural allografts, and autologous cancellous grafts. According to Keating J et al, the best choice of fixation of femur with diaphyseal defects is a locked intramedullary nailing.

REPORT:

A 21-year-old gentleman sustained a closed left peri-implant fracture of left femur in a motor vehicle accident. Following removal of implant, radiographs revealed diaphyseal defect with 10 cm bone loss over medial cortex of femur (fig. 1). Patient was treated with closed reduction using traction table and antegrade femoral interlocking nail (Fig 2). At 20 months follow up, the patient was walking with a short limb gait unaided and latest radiograph of left femur showed bringing callus over previous bone defect (Fig. 3).

CONCLUSION:

Femoral defects up with loss of bone up to 15 cm can heal spontaneously after intramedullary nailing. The proposed mechanism of reamed intramedullary nailing technique is it provides good bone stability, increased blood supply by reaming with limited soft tissue exposure and dissection. It increases the blood supply of periosteum in response to supply loss during reaming, reducing risk of infection, blood loss and morbidity. It gives the benefits of reduced risk of infection and morbidity, earlier mobilization, and shorter hospital stays.



Figure 1 Peri-implant left femur fracture with 10 cm bone defect post implant removal



Figure 2 post antegrade femoral interlocking nail insertion



Figure 3 Radiographs at 20 weeks

REFERENCES

1. Keating, J. F., Simpson, A. H., & Robinson, C. M. (2005). The management of fractures with bone loss. *The Journal of bone and joint surgery. British volume*, 87(2), 142–150.
2. Theodoratos, G., Karadimas, E.I., Petroutsas, J., Tsabazis, K., Papanikolaoy, A., & Apergis, E. (2003). The Treatment of the Femoral Diaphyseal Fracture with Intramedullary Nailing: A Review of 313 Cases. *Osteosynthesis and Trauma Care*, 11, 81-84.