

# Novel Method Of Large Intercalary Defect Reconstruction After Resection Of Appendicular Tumour

Tan HK<sup>1</sup>; Yasin NF<sup>1,2</sup>; Singh VA<sup>1,2</sup>

<sup>1</sup> Department of Orthopedic Surgery, Pusat Perubatan Universiti Malaya, Kuala Lumpur

<sup>2</sup> Faculty of Medicine, University Malaya, Kuala Lumpur

## INTRODUCTION:

A large intercalary bone gap is commonly a sequela of appendicular diaphyseal tumour resection. Options of reconstruction includes autograft, allograft, Ilizarov and cement spacer coupled with internal fixation. An ideal reconstruction should provide a painless and functional limb; stable fixation which allows early mobilization; address large bony gap; facilitate immediate post-fixation chemo- or radiotherapy. Beside these, cement spacer allows immediate weight bearing when coupled with interlocking nail and shorter surgery time. It is less demanding and less complications comparing with autograft harvesting procedures. Cement spacer can be easily converted to a two-staged surgery such as Masquelet technique where second stage bone grafting is performed within the “pseudomembrane” formed around the cement following completion of chemotherapy. It may also be impregnated with antibiotic to control infection and event antineoplastic drugs for local chemotherapy. However, there is still lack of proper methods or tips to apply such useful and versatile option.

## REPORT:

65 years old patient with solitary metastasis of renal cell carcinoma over midshaft of left tibia. Patient underwent intercalary resection of midshaft left tibia with bone gap of 8cm (Fig. 1). After insertion of interlocking nail, a cement mould of the resected tibia shaft was prepared by cutting both ends of a 50cc syringe shown (Fig. 1). The bony gap was confirmed before proximal locking of interlocking nail. Mixed low viscosity cement was poured into the bony gap with the prepared 50cc syringe cement mould placed underneath (Fig. 2). Gentle pressure applied over the edges to prevent leakage of cement. Mould was then removed after setting of cement (Fig. 2). Check x-ray showed good

cement-bone contact. Patient was able to bear weight over left lower limb post-operatively and there was no defect noted over the skin.

Figure 1:



Figure 2:



## CONCLUSION:

Above technique demonstrated is simple, low-cost and effective method for application of cement spacer in large intercalary defect of long bone.

## REFERENCE:

1. Ajay Puri. Limb Salvage: When, where, and how?
2. Robert A. et al. The modern surgical and non-surgical management of appendicular skeletal metastases