

Non Vascularised Fibular Graft For Reconstruction of Bone Defect After Tumor Resection:Hospital Sultan Ismail Experience

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INTRODUCTION:

Non vascularised fibular bone graft (NVFBG) has been used for biological reconstruction of bone defect after tumor resection for more than 60 years. The purpose of this study is to review the outcome of our NVFBG in terms of union and its complications

METHODS:

From 2016 to 2019 we retrospectively enrolled six patients who had undergone tumor resection with NVFBG. All patient were assessed in terms of union and complications.

RESULTS:

Our patient mean age were 45 (range 9 until 80 years old). Three patients were diagnosed as Giant cell tumor, 1 as Osteosaroma and 2 patients had bone metastases. Three patients had tumor at tibia, 2 at radius and 1 at ulna. Average defect size was 11 cm (range from 7cm until 16cm).

From 6 patients only 4 achieved unions while 2 had non union and refused for further management. One patient had stress fracture at distal plate and had to replate again but able to achieve union. One patient had request for amputation due to pain.

DISCUSSIONS:

Our union rate was 66% achieved within 22 weeks which is comparable to Krieg *et al*¹ which is 89% within 12 months. NVFBG integrated by creeping substitution from surface of the graft.

Complications of NVFBG include non union, stress fracture at host graft junction (15%) and donor site morbidity (16%) such as infection and peroneal nerve injury.

CONCLUSION:

NVFBG is a viable option for biological reconstruction after tumor resection since it is acceptable union rate and low complications and donor site morbidity

REFERENCES:

1. Krieg AH, Hefti F. Reconstruction with non-vascularised fibular grafts after resection of bone tumours. *J Bone Joint Surg Br.*2007;**89**(2):215–221.

Table 2 showing outcome and complication

Patient	union	complication
1	24weeks	nil
2		Below knee
3	28weeks	amputation due to CRRP stress fracture at distal
4	24weeks	plate
5	15weeks	nil
6	Non union	nil
	Non union	nil