

Bridging The Void

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INTRODUCTION:

Traumatic long bone loss and sequestrectomy of long bone segment can lead to a delay in bone healing, prolonged immobilization, and increased morbidity. One of the approaches for treating such cases is using bone grafts. Calcium phosphate bone grafts are synthetic bone substitutes that have been used as an alternative to autologous bone grafts. In this case write-up, we will discuss the use of calcium phosphate bone grafts in treating bone defects.

REPORT:

A 47-year-old female patient presented to the hospital with open comminuted fracture right supracondylar femur and intercondylar split with bone loss of 5 cm gap. Patient was put on cross knee external fixation and was planned for Ilizarov external fixation with bone graft block insertion over the bone gap.

Another case is a 53-year-old female patient presented with open comminuted fracture right supracondylar femur. Patient developed non union with chronic osteomyelitis over the distal femur. Patient was put on distal femur locking plate with antibiotic cement insertion. There was 4 cm gap of bone defect after resection and bone graft block was inserted to fill the gap replacing the antibiotic cement. Both cases were supplemented with iliac bone graft.

Upon postoperative follow up, both patients' serial X-rays showed gradual bone healing and integration of the bone graft material. There were significant callus formation and length of both lower limbs were able to be restored.

DISCUSSION:

The combination of synthetic bone graft (calcium phosphate) with autologous bone graft (iliac bone graft) produce satisfactory results in both cases. Traumatic and infection causing severe bone defects may produce satisfactory result from being treated with this combination.

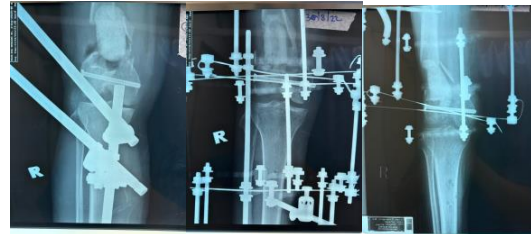


Figure 3: Pre and post bone graft insertion



Figure 2: Pre and post bone graft insertion



Figure 3: Custom made shape bone graft block.

CONCLUSION:

Calcium phosphate bone grafts have gained popularity in recent years as an alternative to autologous bone grafts due to their biocompatibility, osteoconductivity, and osteoinductivity properties. They have a similar structure to the natural bone and promote new bone formation, which helps in the healing process.

REFERENCES:

1. Youji et al., Tissue response to fast-setting calcium phosphate cement in bone.