

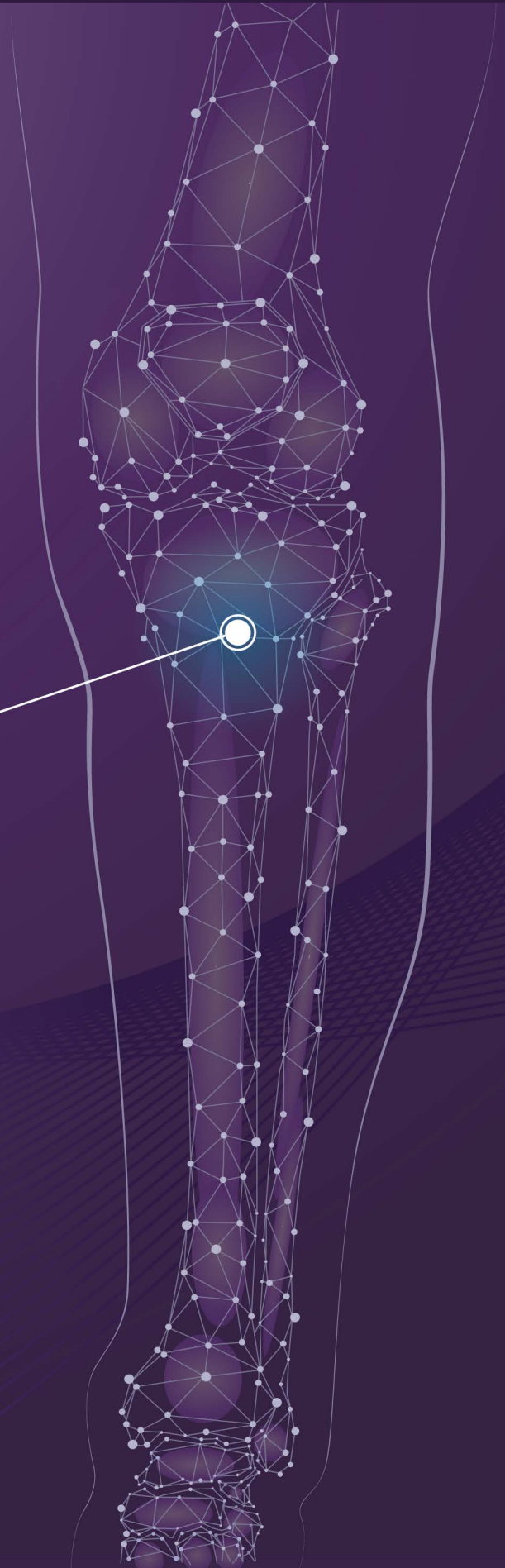
CERAMENT[®] G

with Gentamicin

CASE REPORT

Treatment of Infected Non-Union of the Proximal Tibia Using External Fixation, Allograft and CERAMENT G

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Sweden



DIAGNOSIS

74 year old

The patient suffered a Schatzker Type VI fracture (Fig. 1) that was initially treated by external fixation. After seven days ORIF with two plates via separate medial and lateral incisions was performed. Both wounds showed clear signs of infection and soft tissue failure/necrosis within two weeks of surgery. Wound complications were treated by VAC and oral antibiotics.

A multiresistent coagulase-negative Staphylococcus was isolated from several wound cultures.

Soft tissue closure could be obtained by VAC-therapy but wound drainage persisted until presentation at our unit one year later.

Plain radiographs of the proximal tibia one year after trauma showed no signs of bone callus (Fig. 2).

A preoperative CT scan helped to visualize the four main fragments of the fracture pattern. The medial tibia plateau showed signs of collapse and the tibial tuberosity showed no signs of bone healing to the metaphysis.

TREATMENT

The infected fracture fixation material was removed through the pre-existing medial and lateral incisions. After superficial debridement a medial and lateral cortical window was prepared to assess and debride the infected metaphyseal structures using a bone burr. After excision of the infected non-union, the tibial tuberosity showed no signs of instability.

The remaining defects in the fracture and metaphyseal void was filled using a layering technique with vancomycin-impregnated allograft and CERAMENT G; first a layer of CERAMENT G was used to fill uneven wall structures and smaller cavities, and after hardening, a layer of vancomycin-impregnated bone allograft was built up and compressed. The procedure was repeated until the void and all remaining bone defects in the fracture were filled (Fig. 3).

Because of instability of the metaphyseal part of the fracture and fragile bone callus in the tibial tuberosity, a bridging hybrid frame was used to obtain immobilisation and stability. The medial and lateral wounds could be closed by primary suture without the use of muscle or skin flaps.

OUTCOME

Primary wound closure was uncomplicated without signs of necrosis but sterile wound leakage persisted for 75 days. The femoral part of the external fixator was removed after 55 days.

Follow up radiographs at one month (Fig. 4) and at five months (Fig. 5) showed bone remodeling and signs of bone healing in the fracture zones.

Six months after the operation, the external fixator was removed and the patient was allowed to fully weight bear. An x-ray after external fixator removal showed a healed fracture and bone remodeling in the metaphysis (Fig. 6).

12 months after surgery, the patient shows no signs of infection and is fully weight-bearing.

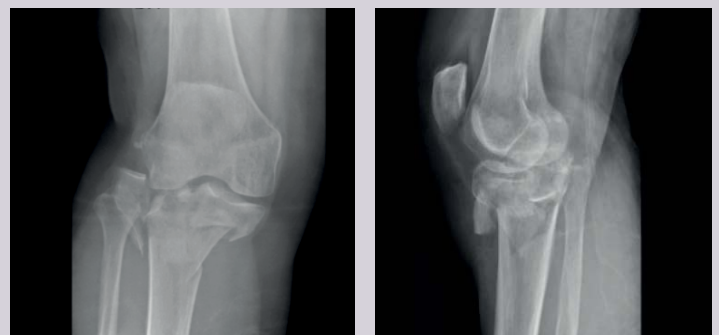


Figure 1.

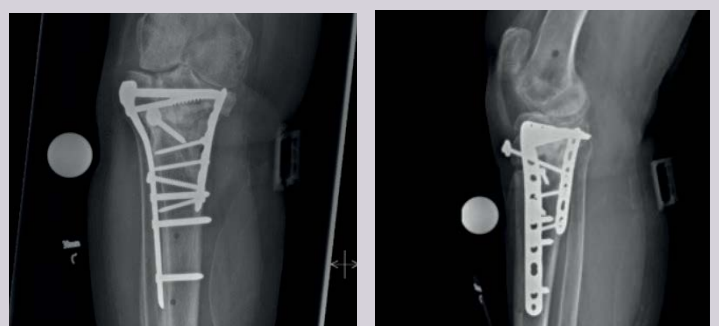


Figure 2.

CERAMENT® G with Gentamicin

Treatment of Infected Non-Union
of the Proximal Tibia



Figure 3.

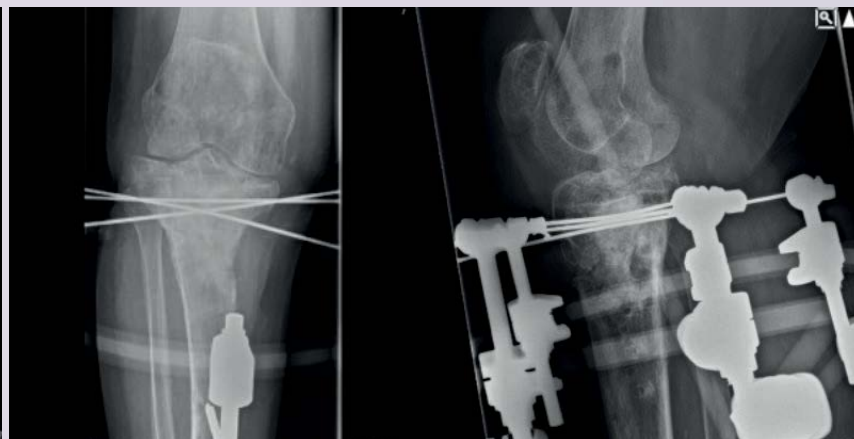


Figure 4.



Figure 5.

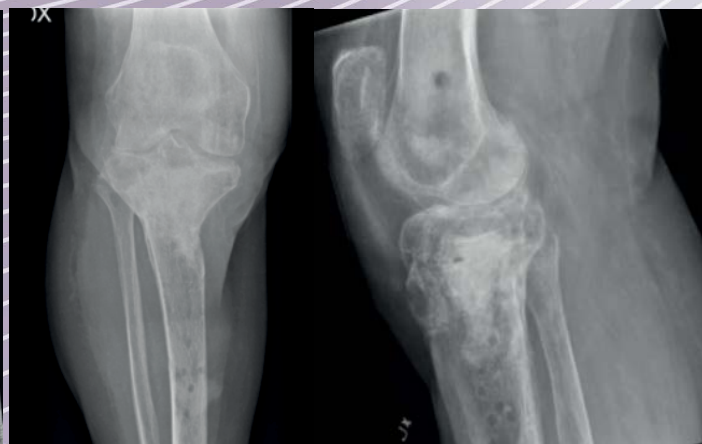


Figure 6.



Our Mission is restoring health to improve the quality of life for patients with bone disorders.

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PR 01108-02 en AU CA EU ROW 2023-03