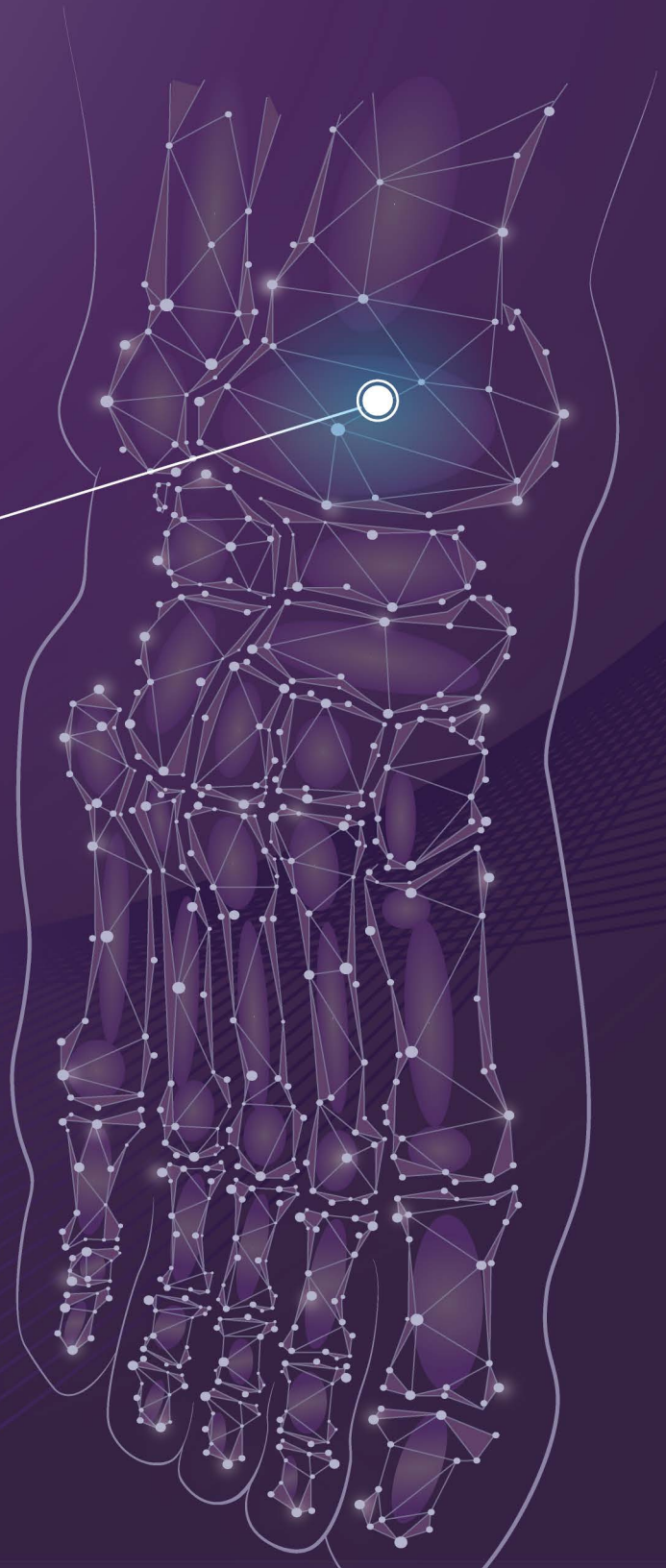


Medical Education Series

Open Pilon Tibial Fracture & Non-Union

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DIAGNOSIS

46 year old

Patient fell from a ladder about 2 metres from the ground, resulting in an open pilon tibial fracture (Fig. 1). Neurovascular status was normal.

TREATMENT

Initial

Temporary external fixation and revision (Fig. 2).

Two second-look operations.

Two operations for plate fixation of tibia and fibula. Fibula defect filled with antibiotic-loaded PMMA spacer. Intra-operatively it was decided a PMMA spacer was unnecessary in the tibial defect due to its small size. Latissimus dorsi microvascular reconstruction and skin transplant (Figs. 3, 4).

Additional Operations

Revision and second skin transplant.

Removal of spacer from fibula and autograft transplant.

Operations for Complications

4 months after the initial treatments the patient had a plate breakage and non-union in the tibia (Fig. 5). Re-osteosynthesis and application of CERAMENT G was carried out. CERAMENT G was used as a bone void filler in the tibial defect.



Figure 1. Pre-operative X-ray, showing pilon tibial fracture due to high-energy trauma.



Figure 2. Post-operative X-ray, showing temporary fixation with an external fixator.



Figure 3. Latissimus dorsi microvascular reconstruction and skin transplant (lateral side).



Figure 4. Post-operative X-ray, showing plate fixation and PMMA spacer in fibula and tibial defect.

OUTCOME

Additional Operations

Skin transplant vital and healed well (Fig. 6).

Operations for Complications

X-rays of the distal tibia taken one day after surgery showed good alignment (Fig. 7).

At 1 month follow-up the patient was pain free and X-rays showed signs of callus formation in the site (Fig. 8).

4 months follow-up showed further bone remodelling of CERAMENT G. Patient was pain free, no signs of infection and the fracture was considered healed (Fig. 9).



Figure 5. X-ray 4 months after initial treatments, showing plate breakage and non-union of the tibial fracture.



Figure 6. Vital skin transplant about 3 months after additional operations.



Figure 7. X-ray one day post-operative showing good alignment after re-osteosynthesis and application of CERAMENT G.



Figure 8. X-rays 1 month post-operatively, showing signs of callus formation in the tibia.



Figure 9. X-rays 4 months post-operatively, showing further bone remodelling of CERAMENT G.