

COMBINATION STEINMAN PIN AND EXTERNAL FIXATOR TO MANAGE
CHRONIC HEEL ULCER AND CALCANEUM FRACTURE FOLLOWING
THE SILO TECHNIQUE.

Nurulizzah I, M.Shahril J, Azammuddin A
Hospital Sultan Abdul Aziz Shah (HSAAS)

Introduction: Chronic heel ulcers with osteomyelitis of the calcaneum are often associated with major amputations. The treatment includes debridement of the wound and dead bone, partial or subtotal calcanectomy, and the usage of local antibiotics. The Silo method involves bone debridement and local delivery of antibiotics in drilled tunnels using a Gentamicin impregnated collagen sponge. This case described our experience treating rare complications following the Silo technique which is calcaneum fracture.

Report: A-63-year-old male known case of long-standing diabetes mellitus was referred to our hospital for a chronic right foot heel ulcer with osteomyelitis for 4 months. Multiple debridements and a course of antibiotics were given at the previous hospital. He was then undergoing wound and bone debridement followed by the insertion of Gentamicin impregnated collagen through the drilled tunnel of calcaneum bone. We managed to close the wound primarily. The bone culture and sensitivity grew MSSA and E.Coli. He was given one month's course of antibiotics accordingly.

Unfortunately, he had a fall two weeks after surgery at home and sustained wound breakdown and calcaneum fracture. (Figures 1 and 2)



Figure 1: Wound breakdown after fall

Figure 2: Lateral view ankle x-ray after fall.

Subsequently, he was undergoing second surgery for calcaneum fracture reduction using a Steinman pin and mini external fixator. The wound was partially closed. The pin was removed after three weeks. The mini external fixator was kept for 3 months until the union was achieved. The heel wound was completely healed after 6 weeks.



Figure 3: X-ray after reduction Figure 4: Wound completely healed after 6 weeks

Conclusion: Silo technique is one of the effective ways to treat chronic heel ulcers as it will increase bone preservation and eradicate the infection by delivery of local antibiotics. The complication of this technique is calcaneum fracture. The combination of Steinmann pin and mini external fixator should be considered when treating this complication as it can achieve stabilization and allowed proper wound healing.

References :

E Drampolos, HR Mohammad, C Kosmidis, M Balal, J Wong, A Pillai. Single stage treatment of diabetic alcaneal osteomyelitiswith an absorbable gentamicin-loaded calcium sulphate/hydroxyapatite biocomposite: The Silo technique. The Foot 34(2018):40-44