

Managing Exposed Bone With Combination Of RTD (Retro-Tech Dressing) And Hydrogel With Calcium Alginate (Carvidagel Ag)

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Introduction

Exposed bony surface is difficult condition for the orthopaedic surgeon. The ideal management is for a musculocutaneous flap however, it's complicated and needs specialized training

We are reporting a case of exposed tibia after extensive wound debridement, treated successfully with aggressive wound care.

Case Report

A 46 year lady was admitted to the intensive care unit with septic shock secondary to necrotizing fasciitis of the left leg. She underwent several extensive wound debridement which resulted in a 15cm x 10 cm wound over the anterior leg with exposed tibia. She was subsequently referred to the wound unit.

The wound had local infection as evidenced by the discharge and sloughy wound base; with edematous edges. The exposed bone measured about 15cm x 2 cm.. The wound was soaked and cleaned with super-oxide solution and the wound covered with Retro-Tech Dressing (RTD) foam. Cavidagel Ag was applied over the exposed bone underneath the foam. The dressing was kept in-situ for three days.

After two cycles of RTD/cavidagel Ag the wound had good granulation. The same dressing was continued for another 2 cycles. At this point the exposed bone has reduced to about 7cm x 2 cm with healthy granulation tissue covering the rest of the areas. Plastic surgery input was sought for possible surgical wound coverage and the primary team was advised for

Vacuum Assisted Closure (VAC) and split skin grafting (SSG) later.

However, since the wound was responding well, the initial dressing was continued. Patient was discharged home and dressing was changed every 3-4 days. After six weeks the bone was fully covered and a split skin grafting was performed. The wound subsequently healed.

Discussions

Treatment of infected exposed bone surface is difficult. The aim for the initial wound management at the onset was infection control and keeping the bony surface moist. The secondary aim was to cover the exposed bone.

RTD foam was chosen for its triple antimicrobial components (silver ion (Ag⁺), gentian violet (GV), and methylene blue (MB). An extra layer of hydrogel with calcium alginate was applied at the bony surface as there was a worry that the foam may dry up the bone.

The dressing combination performed exceptionally well as apart from controlling infection it also allowed granulation tissue to creep up from the bone edges to cover the exposed surface.

Conclusion

RTD foam and Cavidagel Ag is a good alternative in managing exposed bony surface. This is because combination of both will speed up the granulation process hence allowing better and lesser traumatic bone tissue coverage rather than any invasive surgical intervention.