"Low Cost" Negative Pressure Wound Therapy Application on High Bioburden Necrotizing Fasciitis Brachio-cephalic Fistula Wound

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INTRODUCTION:

Negative pressure wound therapy (NPWT) application is a useful technique in addressing challenging wounds which are extensively large sized and those with high bioburden (exudative with biofilm). It is not always feasible to acquire proper NPWT especially for patients who are financially challenged and healthcare centers which has limited resources.

REPORT:

A patient on regular hemodialysis were referred to our care for an infected left arm brachio-cephalic fistula (BCF) which has regressed to necrotizing fasciitis with systemic sepsis. Series of debridement and wound lavage were performed to remove infected necrotic tissue and drain out exudates. Resultant wound bed presents several challenges which are BCF vessels within the wound bed; large wound size, residual bioburden; macerated wound edge and peri-wound skin.

During the third debridement, intraoperative makeshift NPWT were applied using available materials in the Orthopaedic operating theater which includes tulle gras dressing, 10% concentration povidone-soaked big roller gauze, gamgee gauze, large sized adhesive film, and nasogastric tubing. Negative pressure was applied by the ward's wall suction gauge connected to a drainage canister and nasogastric tube of the NPWT dressing. This was applied for a duration of 5 days.

Wound inspection afterwards showed favourable wound conditions such as moist wound bed; reduced maceration of wound edge and peri-wound skin, no more pus discharge. Subsequent composite modern dressing was applied to allow dressing in an outpatient setting before considering split skin grafting (SSG) to achieve definitive wound closure.

Figure 1. Pre NPWT wound

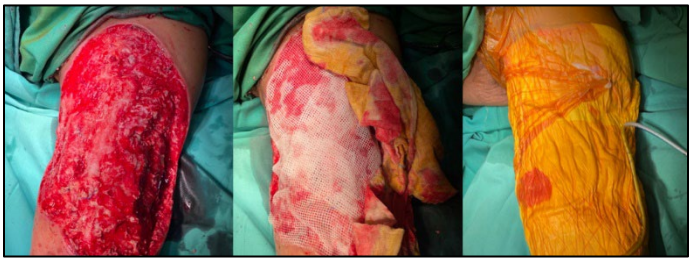

Figure 2. "Low Cost" NPWT applied

CONCLUSION:

Large exudative necrotizing fasciitis wounds poses complex challenges to achieve drainage and maintenance of good moisture balance for initial wound bed preparation. Properly applied NPWT prepares the wound by negative pressure (NP) drainage of infective exudates; prevention of wound edge and peri-wound skin maceration; promotes contraction of large wounds and encourages granulation. Using "low cost" available materials and wall suction vacuum provides an alternative method of NPWT.

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