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A Case Study of Advanced Nursing Practice on Necrotizing Fasciitis and Fournier's Gangrene by Negative Pressure Wound Therapy and Faecal Management System

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Introduction

Life-threatening soft-tissue infective disease¹, Fournier's Gangrene (FG) is a fulminant Necrotizing Fasciitis (NF) of the perineum and genital region². Prompt treatment with surgery and good wound care are crucial to prevent bacterial skin infection². Diabetic ketoacidosis (DKA) can increase the risk of cutaneous mucormycosis-induced necrotizing skin infections impelling high mortality³. In a local case series study showed multiple debridement at mean of 3.25 times plus 75% of fecal diversion with colostomy were indicated among eleven FG patients⁴. However, reversal of stoma may be delayed due to prolonged sepsis⁵. Faecal management system (FMS) may be considered before stoma creation following with extensive debridement⁵. Despite the intricacy of wounds, with the use of low vacuum negative pressure wound therapy (NPWT) have a potential role in complex wound management⁶.

Objectives

To share an extremely complicated wound management experience where a subject suffered from severe DKA influencing NF & FG presented with enormous abscess from neck to scrotum (communicating enormous abscess found from the right neck to right axilla, right trunk, all the way down to iliac crest and scrotum with two intercostal vessels exposed at the right back) received multiple surgical debridement without colostomy creation following managed by evidence-based and advanced nursing practice utilization of professional knowledge and skill through the application of NPWT and FMS performed by Enterostomal Therapists (ET) in a local acute care setting.

Methodology

Five NPWT were applied per 2.5 weeks with alertness to delicate underlying structures, attentive conservative sharp wound debridement by concerned wound management methods. Every three days NPWT included antiseptic irrigation to

wound, application of anti-microbial gauze dressing and tubing draped by sealant occlusive tape then connected to a canister and machine under the negative pressure of ~50mmHg to ~125mmHg for facilitating local microvascular blood flow⁷. After rule out no anorectal involvement and discussion with surgeon, a commercial FMS was applied (for 29 consecutive days application) by ET for the management of faecal incontinence, prevention of contamination to wound and decreasing risk of progressive wound infection⁸. Data were collected during wound management for retrospective review and analysis.

Result

Revascularization and wound contraction were seen; communication between wounds was terminated; and the two exposed vessels were shrouded by new growing tissue after five NPWT without further wound infection or local complication. The subject had received wound closure with skin graft and flap reconstruction without obstacle in wound then discharged to a convalescent finally.