

Challenges of Necrotizing Soft Tissue Infections: A Multidiscipline Approach

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Introduction

Necrotizing soft tissue infections (NSTI) are characterized clinically by fulminant tissue destruction, systemic signs of toxicity, and high mortality. According to Hakkarainen et al. they rank among the most difficult disease processes encountered by a surgeon, and even with optimal therapy have a 25-35% mortality rate. Rapid diagnosis, patient transfer to a tertiary center and wide debridement improve chances of survival. Multiple debridement's are often required which can leave large wounds to be healed.

The use of negative pressure wound therapy with instillation (NPWT-i) has become our standard of care, and there is a growing amount of clinical evidence to show that this method is efficient in accelerating wound healing. In our facility we have found use of hypochlorous acid preserved wound cleanser* (HAPWOC) in combination with either NPWT-i or wet to dry gauze is an effective therapy for NSTI.

Methods

We present patients with NSTI wounds treated with HAPWOC in combination with NPWT-i and wet to dry gauze. NPWT-i settings were either: 5 min soak times occurring every 2 hours or 10 min soak times occurring every 3 ½ hours. Negative pressure ranged from -100 to -150 mmHg. HAPWOC gauze soaks were changed twice daily.

Results

Patients with NSTI wounds of 1477, 2209 and 2300 cm² were treated with HAPWOC therapy in combination with negative pressure wound therapy and without. All three patients have been closed with a combination of skin grafting and primary skin closures. All patients have been discharged to home.

Discussion

Effective NSTI treatment with these therapies requires a multidisciplinary team. Our observations are that necrotizing soft tissue infection patients benefit from the use of hypochlorous acid preserved wound cleanser and these therapies.

Wet to Dry 4/8/21



Abdomen



Groin



Thigh

NPWT with Instillation 4/19/21

Dressing
border
preparation



TECHNIQUE
EXAMPLE

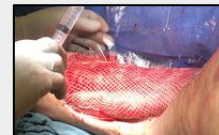
NPWT-i with
multiple
instill points



Tissue
ready for
skin
graft

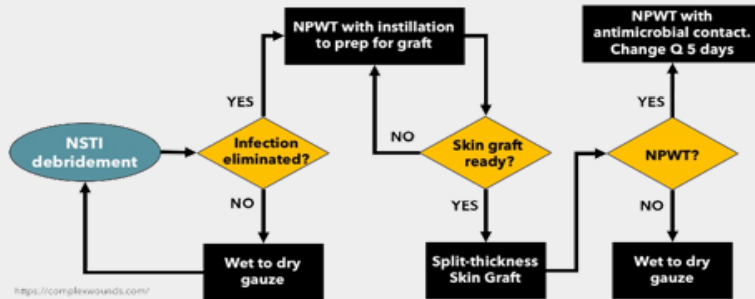


Skin Graft 5/8/21



Bolstered with NPWT and open weave polyester mesh impregnated with hydrocolloid polymers**

NSTI clinical decision making



Outcomes 11/25/21



Abdomen



Groin



Thigh