

# MANAGEMENT OF A WOUND RESULTING FROM NECROTISING FASCIITIS

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## Introduction

Necrotizing fasciitis is a rare, life-threatening bacterial soft tissue infection. It is characterized by rapidly spreading inflammation and necrosis of the skin, subcutaneous fat, and fascia. Many different types of bacteria can cause necrotizing fasciitis, for example Group A streptococcus, *Vibrio vulnificus*, *Clostridium perfringens* and *Bacteroides fragilis*. Flaminal® is an alginate gel that contains an antimicrobial enzyme system designed to promote rapid healing whilst offering protection from microbial colonisation<sup>1</sup>. It is available in two formulations; Flaminal® Forte, with a high alginate content is designed for medium to heavily exuding wounds and Flaminal® Hydro, contains less alginate and is designed for more lightly exuding wounds.

## Case study

A male 59 year old patient who had suffered from type 1 diabetes since childhood developed necrotizing fasciitis to the perineum. The patient was originally admitted, via casualty, to the ITC unit Queen Elizabeth Hospital, Gateshead, where he remained for 48 hours. During this time the wound was debrided in theatre and a tissue biopsy confirmed necrotizing fasciitis. The patient was then referred to the Department of Plastic Surgery, Royal Victoria Hospital, Newcastle upon Tyne. The patient was unable to be transferred to the RVI Hospital, therefore, the clinical nurse specialist (CNS) attended the Queen Elizabeth Hospital to perform a full assessment of the wound and provide advice on wound management. The wound was sloughy, malodorous with large amounts of exudate (Figures 13). The wound extended from the buttock through to the perineum and this presented a challenge in terms of managing the wound. Topical negative pressure (TNP) could not be applied for several reasons: the wound still needed de-sloughing; nursing staff were not competent in managing VAC therapy; the location of the wound would prevent the seal being maintained. Mestran honey was available on the hospital wound formulary and this was, therefore, used initially to debride the slough. At the following review (48 hours) Flaminal® was provided by the plastic outreach service. Flaminal® was chosen for ease of dressing change, patient comfort, exudate absorption and for antimicrobial protection. The patient was also prescribed IV antibiotics for 5 days.



Figure 1.



Figure 2.



Figure 3.

The patient was transferred to the RVI Plastic Surgery Ward one week after commencing Flaminal® Forte. The wound still required surgical debridement and a skin graft was applied to the debrided area. The graft was only partially successful, with just a 10% take initially then total loss of graft by second dressing check. The decision was then made to treat the wound conservatively and wound management continued with Flaminal®, changing from Flaminal® Forte to Flaminal® Hydro as the wound progressed and exudate levels decreased (Figure 4). Mepilex was initially used as the secondary dressing, as the wound improved a mesor pad was used. The patient was discharged into the community and care was shared with the District Nursing service and plastic surgery outreach nurse. The patient was encouraged to follow a high protein diet

and maintain good control of blood sugars. In addition, he was encouraged to mobilise within his own limitations.



Figure 4.

After 4 weeks treatment with Flaminal® the wound was showing signs of healing (Figure 5). The wound healed completely after 3 months. For the heavily exuding wound two tubes of Flaminal® Forte were applied, however as exudate levels decreased and the wound healing was initiated Flaminal® Hydro was used in place of Flaminal® Forte and only half a tube was applied at each dressing change. The patient found dressing changes easy and not too painful, with the Flaminal® dressing being removed in the shower prior to dressing change. The District Nurses were new to Flaminal® and found application relatively easy, that the dressing stayed in contact with the wound and exudate levels were managed well. Of note, only one course of oral antibiotics was required when the patient was being treated in the community over a 3 month period



Figure 5.

## Challenges in wound management

- Location of the wound
- Manage exudate
- Allow mobilisation
- Patient comfort

## Discussion

Necrotizing fasciitis has a relatively high mortality rate, estimated to be between 20 and 70%. Certain conditions, such as diabetes which weakens the immune system, can predispose patients to necrotizing fasciitis. Due to the location of the wound TNP could not be applied and so an alternative option for wound management had to be chosen. Previous experience with Flaminal® by the CNS had shown the dressing to be easy to apply, well tolerated by patients and to demonstrate antimicrobial properties. Early success with Flaminal® meant that following partial failure of the skin graft it was a good choice for continuing wound management in this patient.

## Benefits experienced with Flaminal®

- Patient:
  - dressing changes easy
  - dressing changes relatively pain-free
- District Nurses, new to Flaminal®:
  - found application relatively easy
  - the dressing stayed in contact with the wound
  - exudate levels were managed well

## Conclusion

Flaminal® Forte is suitable for heavily exuding wounds and Flaminal® Hydro is suitable for more lightly exuding wounds. Together they offer a total wound care solution suitable from initial wound management until complete healing.

## Reference List

1. White R. Flaminal®: a novel approach to wound bioburden control. Wounds UK 2006;2(3):64-9.