

TREATMENT OF ACUTE LOWER LEG HAEMATOMA USING MESITRAN HONEY OINTMENT

AUTHORS

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Two Approaches for Management of Lower Leg Haematoma

Introduction

Skin tears and haematomas often present a clinical challenge due to the presence of haematoma and / or loss of the skin flap. This leads patients to be referred to the burns and plastic unit in Newcastle. These wounds are slow to heal, due to age and co-morbidities such as peripheral vascular disease, chronic venous stasis and heart failure. In addition patients are often on anticoagulant systemic therapy such as warfarin or low dose aspirin. Not all patients are suitable for surgery due to underlying comorbidities and anaesthetic risk. The aim of treatment is to avoid lengthy hospital stay, high risk treatments and to manage patients in the community where it is possible.

About Haematomas

Main Causes:

In the young: Sporting injuries

In the elderly: Incidence is common in this age group, due to conditions leading to higher risks and tendency for falls/knocks and due to the increasing fragility of the skin associated with ageing.

Pathophysiology of the wound:

The trauma to the lower leg results in formation of the haematoma which can be isolated under the skin or associated with loss of skin. It is a localised collection of blood, usually clotted, in an organ, space or tissue, caused due to a break in the wall of a blood vessel.

Degrees of haematomas:¹

- Haematoma = bruise
- Petechiae = small pinpoint haematomas less than 3mm in diameter
- Purpura (purple) = a bruise about 1cm in diameter, generally round in shape
- Echinymoses or ecchymosis = haematoma greater than 3mm in diameter

Using the principles of Wound Bed Preparation the tissue in the wound bed is assessed and in this situation the haematoma needs to be debrided in order for healing to occur.

Debridement Methods

1. Surgical debridement to remove the haematoma and prepare the woundbed together with split skin graft procedure.
 2. Conservative approach e.g. manual cleansing and supporting autolytic debridement, followed by support of the healing process. Wound debridement and cleansing can be enhanced using honey dressings:
- There are many reports / case studies using honey to debride slough and control malodour in pressure sores.²
 - The preparation of a wound to reach clean wound bed status involves some sort of debridement using surgical, chemical, enzymatic or dressing associated techniques.³
 - The debriding effect of honey is recognised in the literature^{4,5} and is also conducive to healing of the wound⁶ with the addition of an antibacterial effect⁷

1. Surgical Approach:

Surgical debridement to remove the haematoma and prepare the woundbed together with split skin graft procedure.

- Not all patients are suitable for surgery due to underlying comorbidities and anaesthetic risk
- Increasing age = increased likelihood of comorbidities
- General skin condition of patient
- Donor site for the graft procedure creates additional open wound that requires management
- Length of hospital stay
- Costs of surgery and the recovery period

Figures 1-4:

Haematoma management using surgical debridement and skin grafting approach. NOTE: Donor site wound also requiring management: 10x15cm size

Time frame for healing in the case presented:

- 6 days hospitalisation.
- In total it took another 5 weeks to fully heal, with out-patient visits required.
- Donor site took longer to heal: outpatients appointments continued for some weeks past the healing of the graft site.



2. Conservative Approach:

- The technique of removing the haematoma needs to be as atraumatic as possible as these wounds are associated with increased levels of reported pain.
- Some of the haematoma can be removed by scooping out manually but this can be very painful for the patient.
- The haematoma itself is difficult to grasp even using gauze. Any exposed nerve endings will be further stimulated by manual abrasion with gauze.
- Dressing selection is important: If the haematoma is dressed with an interface dressing only then the haematoma dries and becomes leathery to touch which can make debridement more difficult.

There are no specific case reports of use in acute lower leg haematoma. There are however many studies on surgical wounds, leg ulcers, cavity wounds and wounds not healing by conventional methods. Molan also states that honey debrides faster than hydrogels suggesting it has a stimulatory action on proteases in the wound bed.⁸ This could be due to the sugar content of honey being responsible for protease activation leading to improved autolytic debridement.

We have investigated the use Mesitran® Ointment, distributed by Aspen Medical Europe Ltd. in the UK. Mesitran Ointment is a medical grade honey ointment used for cleaning and debridement, facilitating removal of necrotic and sloughy tissue to leave a clean wound bed from which healing can take place. It is indicated for use in the early stage treatment of chronic wounds, first and second degree burns and diabetic ulcers.

Method of application

- The introduction of the Mesitran honey into the haematoma is facilitated using a syringe and quickly softens/liquesfies the haematoma aiding debridement.
- A non adherent interface is used as a primary layer⁹ with an absorbent pad and crepe / K-Lite bandage.
- The dressing is changed every 2nd day or as needed if the exudate level indicates.⁹

Figures 6-7:

Haematoma management using non-surgical debridement with Mesitran approach: March 3rd- March 31st (29 days)



Results

The results of the conservative approach documented show a good cosmetic appearance of the healed wound, and this has been achieved without the need for surgical intervention and the associated patient risks. Using a syringe to introduce the honey allows infiltration through the haematoma. This can be particularly useful in very painful wounds where manual removal of the haematoma is limited. The time scales are also not excessively longer compared to the surgical approach, and no additional wound has been created (eg. Donor site) as would be required for a skin graft approach.

Discussion

The results we have seen when using Mesitran to aid debridement and woundbed preparation in this, and in other patients we have treated, correlate with the experiences documented in the literature. Study limitations are that this is a preliminary observational report to describe the outcomes when using the new honey dressing vs the current surgical intervention, however the results shown are interesting when faced with patients unsuitable for surgical intervention, which will become an ever increasing situation with current and projected age and health demographics.

Conclusion

Skin tears and haematomas occur frequently within the growing elderly population. Appropriate management techniques need to take into account the suitability of the patient for surgery. There are costs and complications when looking at taking a patient into surgery for debridement and grafting. Clinicians therefore need to re-examine practice and ask the question "is the surgical approach still appropriate?" A conservative approach to management of type 1-type 3 pretibial lacerations/haematomas may be a growing trend in order to minimise incidence of post-operative complications and maximise early mobilisation and to maintain independence of the elderly patient. With this proposed technique using a honey ointment dressing (Mesitran® Ointment) under appropriate supervision, it appears that good healing results can be achieved in haematoma management without the need for surgery, avoiding the associated risks to the patient and the costs to the Trust.

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