

The Successful Management of a Wound Colonised with *Methicillin-Resistant Staphylococcus Aureus* (MRSA) following a Zadeck's Procedure

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Introduction

Ingrown toenail (IGTN), also called onychocryptosis or unguis incarnatus, is a painful nail condition primarily affecting the big toe. This condition is caused when the toenail edge penetrates the skin and results in inflammation and possible infections. The predisposing influences include improper nail trimming, poorly fitting footwear, inadequate foot hygiene, abnormally long toes, trauma, anatomical deformities, certain drugs and genetic factors⁽¹⁾.

There are five stages of severity, according to Mozena's classification system, each with distinct symptoms and considerations for diagnosis: stage five being the most serious. This classification system improves the understanding of the condition, facilitating accurate diagnosis and a tailored treatment plan⁽²⁾. Management ranges from conservative treatment to surgical intervention, dependent on the severity⁽³⁾.

This case study is centred around a 44-year-old female who underwent a Zadeck's surgical procedure for the treatment of a left hallux ingrown toenail. This procedure involves the removal of the toenail and nail bed to prevent recurrence of the condition. The patient was otherwise fit and healthy with no noted underlying medical conditions. Subsequently the post-surgical wound failed to heal fully and was very painful. Routine swabs identified *Methicillin-Resistant Staphylococcus Aureus* (MRSA). Over the subsequent months, the wound continued to heal but remained intermittently colonised with MRSA, restricting this person's ability to cover all aspects of her employment. Initially the wound bed continued to remain moist with moderate levels of exudate and the nail bed edges and lower corner of the wound became slightly macerated. The wound was initially treated with an iodine type dressing and antibiotic therapy.



31st Oct 23



30th Jan 24



15th Feb 24

Method

The aim was to eliminate the wound colonisation and reduce the risk of further bacterial invasion to allow the individuals return to full work. Flaminal® Hydro was selected as it had recently been added to the hospital formulary and as part of the NDT Team, we were fortunate to be involved in a wound care study day, in conjunction with Flen Health and the Health Board. A contributing factor in choosing Flaminal® Hydro was its easy application and its suitability for both patient and HCP making it ideal for self/shared care. After discussion with the patient, Flaminal® Hydro was applied directly to the wound daily, use of a secondary dressing if needed and reapply as required.

Flaminal® Hydro was selected for its antimicrobial protection and its reliability to reduce the risk of infection. Additionally, Flaminal® Hydro is indicated for low to moderately exuding wounds. The alginate component absorbs excess exudate and consequently supports autolytic debridement. Inappropriate management of exudate can lead to complexities such as prolonged healing, skin damage, pain and poor quality of life⁽⁴⁾.

Result

The NDT Team advocated that the treatment aims were achieved and there was evidence to support wound improvement. The problematic MRSA bacteria burden was resolved quickly; following application of Flaminal® Hydro the patient successfully obtained three consecutive negative MRSA Swab results over a 3-week period allowing her employer to remove working restrictions. Additionally, the patient's quality of life was restored, as previously the non-healing wound had prevented her from working.

Discussion

An ingrown toenail is a straightforward diagnosis with all patients presenting with toe pain. This pain may cause different levels of discomfort and disability, ranging from difficulty with walking to a complete inability to ambulate. Physical examination findings may vary depending on the stage of the disease.

The incidence and prevalence of ingrown toenails have increased in recent years, probably due to increased health knowledge, and may also be related to lifestyle changes such as important physical activities. Incidence peaks in adolescents and young adults with a clear male predominance (male/female ratio is approximately 2 to 1).

Ingrown toenail affects almost exclusively the hallux toenails. It can occur in 1 or both nail edges. Involvement of the lateral toe edge occurs twice as much as on the medial side⁽⁵⁾.

Conclusion

The impact of MRSA is variable and choosing a suitable dressing for wounds colonised or infected with MRSA, should be determined by the type of wound a patient has in line with a moist wound healing environment⁽⁶⁾. It is important to select a dressing that can reduce bioburden so that healing is achieved as quickly as possible, reducing the risk of infection. On reflection, there was more than one contributor factor in the healing of this wound; MRSA continued to be present despite other interventions used. As the NDT Team, our role is to explore evidence-based practice and to be able to explore and share new products, incorporating them into our training programmes in order to achieve the best outcomes for our patients. This has been a positive experience for us within the NDT Team, more importantly the patient, and her family as she returns work. It reiterates the effectiveness of Flaminal® Hydro as an antimicrobial dressing that facilitates the wound healing journey.

References

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