

Background

A 81 yr old male patient suffered a traumatic skin tear to the dorsum of his right wrist extending proximally to the hand following the removal of an adhesive plaster dressing. The patient suffers from Chronic Obstructive Pulmonary Disease (COPD) and has medicated with a daily prednisalone regimen for many years. As a result his skin has become very fragile and susceptible to minor traumatic wounds. These minor wounds often evolve into larger wounds placing him at significant risk to a systemic infection.

Aim

The aim of this case study was to evaluate the effect of a bacteria and fungi binding dressing in the management of a high risk wound. Figure 1



Figure 1. Day 0 – traumatic skin tear to dorsum of right wrist.

Management of the wound

The patient was managed initially using a bacteria and fungi binding* gel dressing, (Sorbact, ABIGO Medical) supported by a foam** dressing for comfort and fluid management. The intention to use a bacteria and fungi binding dressing from the outset was to minimise the risk of infection given the high risk status this patient presented. The patient was reviewed every second day during the first week and the use of the gel dressing ceased after 1 week. Weeks 2-4 the wound was managed with only the foam dressing and changed twice a week. Figure 2.



Figure 2. Day 7 – Dressing change using the bacteria and fungi binding foam dressing.

Results

The use of the bacteria and fungi binding dressing facilitated wound healing and infection prevention over a 4 week period. At no stage throughout the management of the wound did the patient display signs or symptoms of a wound infection that would prompt further investigation and treatment.



Figure 3. Week 3 – Continuation of wound healing

By week three (figure 3) the wound had decreased to less than half of the original size with a healthy wound bed giving every indication the wound healing was progressing in the right direction. Following four weeks or management the wound was completely healed and the goal of avoiding any incidence of infection in this high risk patient was achieved. Figure 4 and 5.



Figure 4. Day 20 – Healing continuing to progress without signs of infection.



Figure 5. Day 27 - Complete healing facilitated.

Discussion

The bacteria and fungi binding dressing operates by preventing wound infection after binding to wound micro-organisms that would otherwise increase the risk of infection development and impede normal wound healing. The mechanism of action is based upon the physical principle of hydrophobic interaction¹ and does not rely upon the deposition of any bactericidal chemicals or endogenous toxins to the wound bed. (Figure 6)



Figure 6. Wound bacteria and fungi bind to bacteria and fungi binding dressing*: *Candida albicans* (orange)³.

Conclusion

The option for clinicians to use a safe, cost effective, easy to use dressing such as Sorbact in the management of 'at risk wounds' in the acute setting is quite appealing. This individual case study has demonstrated how a bacteria and fungi binding dressing can aid in the prevention of wound infection and facilitate normal wound healing. The relevance of an individual case is understood when discussing clinical significance and other contributing factors need to be appreciated when making generalisations based on one case. On the basis of this case it is felt scope exists to pursue a larger study in the management of the 'at risk wound' population.

References

1. Ljungh, Å, Yanagisawa, N. Wadström, T. *Using the principle of hydrophobic interaction to bind and remove wound bacteria.* Journal of Wound Care, Vol. 15, Iss. 4, 01 Apr 2006, pp 175- 180

* Sorbact® Gel, ABIGO Medical Sweden.

** Sorbact Foam, ABIGO Medical Sweden

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