

Background

Wound infection is without doubt the most troubling of all wound complications and is a major cause of delayed healing and may produce symptoms, such as malodour and pain, which distress patients and are a challenge for clinicians to manage (Newton, 2011). Wound infection occurs as a result of an imbalance between the patient's immune system, the type of bacteria and the conditions within the wound itself (International Wound Infection Institute [IWII], 2016). Accurate wound assessment is essential to ensure early detection of changes within the wound and the surrounding skin, which may indicate a rise in bacterial levels (IWII, 2016). There are classic signs and symptoms that are easily identifiable as wound infection. Localised infection is often characterised by the classic signs and symptoms of inflammation, pain, heat, swelling, redness and loss of function (IWII, 2016). For healing to proceed it is important to prevent the establishment of localised infection and spreading infection. This may involve the prevention of progression to colonisation or the management of an established localised infection (World Union Wound Healing Society [WHWHS], 2016)

Advanced Medical Solutions has a new antimicrobial fibre dressing in the ActivHeal range as ActivHeal Aquafiber Ag, which includes both a flat and ribbon format to address the clinical needs of patients. The dressing releases silver ions in the presence of wound exudate and is effective antimicrobial agent against a broad spectrum of microorganisms frequently associated with bacterial colonisation and infection of wounds, for up to 7 days. The case study will explore the management of a Category 3 pressure ulcer using the ActivHeal Aquafiber Ag.

Method

A 86 year old female was admitted to a residential care home, following a total hip replacement after falling and fracturing her hip and the development of a category 3 pressure ulcer. The patient had previously been cared for at home however she had become less mobile and incontinent of urine and a category 3 pressure ulcer on the sacrum developed. Once in the care home the patient was nursed on an alternating mattress and received 2 hourly repositioning. A referral was made to tissue viability as the pressure ulcer had deteriorated to a category 4 pressure ulcer to the sacrum. A full assessment was undertaken along with a wound swab.

Results

Initial assessment, the ulcer measured 3.7cm x 3.2cm with a depth of 2cm and the wound undermined downwards by 3.5cm. The pressure ulcer had 50% slough and 50% granulation tissue and high exudate levels. The pressure ulcer was showing clinical signs of infection of erythema, abnormal discharge and increased levels of exudate along with a visual analogue score for pain at 10 (10= worst pain imaginable). A wound swab was taken and sent for culture and sensitivity. The ActivHeal Aquafiber Ag dressing was selected to assist in reducing wound bioburden, absorb levels of exudate, maintain a moist wound environment, facilitate autolytic debridement and promote healing. The ActivHeal Aquafiber Ag was secured using ActivHeal Foam Contact dressing. The patient was also to be nursed on an alternating pressure relieving mattress and being repositioned every 2 hours. (Figure 1).

Conclusion

The ActivHeal Aquafiber Ag dressing was found to be an appropriate dressing in the management of the infected category 4 pressure ulcer with high exudate levels. The dressing produced very positive patient outcomes. The correct dressing choice in this case enabled the patient to be managed quickly and effectively without an overly long treatment time and assisted in the management of clinical indications of exudate management and to reduce wound bioburden **along** with being safe and acceptable to the patient. The patient's pain score reduced throughout the use of the dressing. The case study illustrates the importance of a holistic approach when caring for a patient with a challenging wound and ensuring that the correct diagnosis is made based upon a thorough assessment ensuring good clinical outcomes for the patient.



Figure 1.

• Week 1

- The wound measured 2.5cmx1.8cm with a depth of 2cm and the undermined areas had reduced to 2.5cm. There was new granulation tissue visible and epithelialisation was evident at the wound margin and a reduction in the amount of slough. Exudate levels remained high however the peri wound was healthy and no longer macerated. (Figure 2) The wound swabs showed heavy growth of mixed anaerobes and proteus species sensitive to Metronidazole therefore the patient was commenced on a 7 day course of Antibiotics. The same dressing regime continued.



Figure 2.

• Week 2

- Further progress was noted in the wound with a continued reduction in slough, promotion of granulating tissue and epithelial tissue was apparent at the wound edges. The wound had 5% sloughy tissue and 90% granulating tissue and 5% epithelial tissue. The wound had high levels of exudate, however the peri wound skin was normal, and no signs of maceration. The wound measured 2.3cm x2cm and a depth of 2cm. Clinical signs of infection were reducing, with abnormal odour apparent and the patient's pain level had reduced to 6 using a visual analogue scale. The dressing regime continued.



Figure 3.

• Week 3

- The wound was reviewed and had continued to improve. The wound measured 2cm x 2cm with a depth of 2cm. The wound no longer contained sloughy tissue but had 95% granulation tissue and 5% epithelial tissue. Exudate levels remained high but all the clinical signs of infection were no longer apparent. The patient's pain level had also reduced to 0 using a visual analogue scale. The wound was reassessed and the ActivHeal Aquafiber Ag was discontinued and the patient was moved to NPWT. The ActivHeal Aquafiber Ag dressing was selected to assist in reducing wound bioburden, absorb levels of exudate, maintain a moist wound environment, facilitate autolytic debridement and promote healing. Significant progress was noted in the wound, with the wound reducing in size and showing wound progression. The wound had a heavy growth of both mixed anaerobic bacteria and proteus species, and antibiotics were prescribed. Despite this, the wound improved over the 3 weeks of treatment. Granulation tissue was evident in just a few days. Sloughy tissue was also debrided very quickly.

References

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World Union Wound Healing Societies (2016) Position document: management of Biofilm. Wounds International. London.