The management of Pseudomonas Aeruginosa in a hard to heal arterial leg ulcer

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Introduction

The treatment of leg ulceration in patients with impaired healing due to poor venous supply can be a long and challenging process for both the patient and clinician. Combined with these challenges can often be the recurrence of infection - which can result in pain, delayed healing, increased dressing changes and increased cost.

Case Study

Mrs L had a long standing (over three years), large chronic arterial leg ulcer measuring 15cm x 25cm and heavily infected with Pseudomonas aeruginosa.

Pseudomonas aeruginosa is one of the most frequently isolated wound pathogens identified in bacteria and is found to be a common pathogen within chronic wounds (Meers et al, 1981). The wound bed consisted of 100% green / yellow thick slough and was extremely malodorous. Previous dressing regimes had included Iodine dressings and Sulfadiazine silver cream.

At its worst, Mrs L’s pain score was 8/10 (VAS scale). Anderson, I (2008) found that quality of life studies indicate patients with leg ulcers experience significant pain. Patients who suffer with pain from arterial disease spend long periods of time sitting with their legs dependant to gain pain relief. However, this can result in the development of oedema, increasing the risk of infection (Herbert, 1997).

Due to the presence of Pseudomonas aeruginosa, Mrs L’s ulcer also presented with high levels of odour (6/10) and exudate (8/10). Due to the condition of the wound, Mrs L’s dressings were being changed daily.

Method

The greatest challenges to Mrs L were the high levels of exudate and the challenge of the odour from her wound. These issues led to Mrs L burning candles at home to try to eliminate the odour and using extra bed linen to try to manage the exudate - also at times even wearing carrier bags over her leg in bed.

The challenges faced by the nursing team included patient acceptability and compliance of any new dressings, thus enabling Mrs L to gain a positive attitude towards treatment to help improve her quality of life.

An antimicrobial hydrobalanced wound dressing containing Polyhexanide (Suprasorb X+PHMB) was applied to treat the infection, reduce odour and exudate levels, with reduced compression as previously used.

Results

Suprasorb X+PHMB has a wide antimicrobial spectrum which enables the reduction of bacteria within infected wounds. Within three days there was no evidence of Pseudomonas aeruginosa to the wound bed. After 10 days the ulcer appeared cleaner and healthier, the wound odour had reduced to 2-3/10 and exudate levels had reduced to 5/10.

Due to the HydroBalance technology of Suprasorb X+PHMB, Mrs L’s wound pain reduced to 0/10 resting and 6-7/10 on movement.

The wound continued to improve and after 3 months Mrs L’s pain levels were 0/10, odour level 0/10 and exudate level 2/10. Her dressing changes were reduced from daily to every 3 days.

Conclusion

The antimicrobial hydrobalanced wound dressing, Suprasorb X+PHMB was highly successful in the treatment of the Pseudomonas aeruginosa infection and effectively reduced pain, odour and exudate.

Unfortunately Mrs L went on to suffer several falls and her general condition has subsequently deteriorated. However, she was very happy that her legs are improving.

Discussion

Leg ulcer treatment in patients with chronic arterial wounds can be a long and challenging process which requires appropriate and timely responses to the changes within the wound’s condition.

Optimal wound healing is not always an achievable outcome, which can prove disheartening to the patient and the nursing team. However, through an effective patient and clinician partnership, combined with the most appropriate treatment for the given situation, patients can achieve significant improvement to their quality of life.

References

