RTD FOR WOUND INFECTION CONTROL IN A PRIMARY WOUND CLINIC

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INTRODUCTION

Chronic wound infections are clinically significant impediments to wound healing. Clinicians have universally accepted that this that infection can cause a protracted healing period, which reduces patient's quality of life by exposing them to additional pain. Most importantly, this can increase the risk of systemic infection and thus, placing a huge financial burden on the healthcare system.

A holistic approach is needed to treat the patients by addressing any underlying conditions that may interfere with wound healing. Working together with doctors to control and monitor blood glucose, neuropathy, vascular blood flow, and other intrinsic components are just a few of them[1]. TIME is the methodical strategy to approach a wound bed by identifying the infected wound bed, and addressing it with debridement, wound cleaning, and wound dressing to control the bioburden in situ, according to wound bed preparation cycle[2]. Silver Ag dressing has long been considered the gold standard for wound colonisation.

Patient arrived at clinic in early July to get consultation about his wound condition. He is 59 years old Male with hypertension & type2DM. He is taking insulin once a day with compliance. His wound is a right diabetic foot ulcer with ray's amputation over right 2nd toe. Wound was presented with exudate and gangrene, inflammation over right dorsal anterior foot radiating to toe & between first and second toe. Earlier treatment regime with this patient has only minimal success in bioburden management using conventional dressing on a twice-weekly regimen. Patient had consultation with doctor and our team and was decided to refer the patient to have surgical debridement in a hospital.

After he had the surgical debridement, patient came into KKKL wound team for treatment on 23rd July. The team handle this case with extra care as the debrided wound now extend over Right 2nd Toe as debridement was done over right anterior dorsal foot to plantar.

RESULT

DAY 1 (23/7/21)
Starting RTD

T : Wound tissue non-viable of > 25% seen due presence of wet gangrene over right big toe and slough
I : No presence of wound infection
M : Wound moisture shown presence of wound serous and no active fluid (clear and watery fluid)
E : Epidermal wound non advancing

- Wound Stage: 6
- Pain score: 5
- Vital Sign: Bp: 134/80, Dx: 6.5mmol

Wound present to be wet with gangrene. Mechanical sharp debridement carried out. Soaked with super oxide solution, applied hydrogel, and RTD foam to help reduce bacteria load on wounds. Side of the big toe had some sign of local infection. Debridement done and continue with RTD.

DAY 26 (18/8/21)
Continue anti-infective dressing RTD dressing

T : Wound tissue viable < 25% (slightly presence of wet gangrene over Right toe, no slough)
I : No presence of wound infection
M : Wound moisture shown presence of wound serous, no active fluid (clear and watery fluid)
E : Epidermal wound advancing starting over dorsal and plantar .

- Wound Stage: 4
- Pain score: 2
- Vital Sign: Bp: 130/70, Dxt: 7.8 mmol/l

More than 70% of wet gangrene has been taken away by using mechanical sharp debridement Continue super oxide solution, hydrogel and RTD foam to help reduce bacteria load on wounds. Toe non-viable tissue removed and showing granulating tissue.

METHOD

The wound is flushed and cleansed using super oxide solution to lower microbial burden and keeping the wound moist. Mechanical debridement was done using sharp instrument (non-tooth forceps, scissors and gauze) to remove biofilm, slough and non-viable tissue. An amorphous hydrogel with antimicrobial silver and alginate was used to create a hydrating wound bed for optimal wound healing. RTD foam was then selected as the dressing as it has 3 active antimicrobial compound in the dressing with the capability of absorbing from moderate to heavy exudate. RTD could draw protein rich exudate away from wound by creating a favourable wound healing environment> Methylene Blue, Gentian Violet and Silver Ag, which can be found inside RTD is effective against a wide range of microbe, fungi & deter biofilm formation. Gentian Violet also present some analgesic effect that would reduce pain.

CONCLUSION

RTD is the only foam dressing that combines silver Ag with Methylene Blue, Gentian Violet, and surfactant in a single product. In cases where extra bioburden control is needed, the use of RTD foam as main contact to wound bed produces a positive result in bioburden management.

Reference

1. *Challenges in the management of chronic wound infections. M. Falcone, B. De Angelis, F. Pea et al. Journal of Global Antimicrobial Resistance 26 (2021) 140–147*
2. *Best practice recommendations for preparing the wound bed: update 2006. Sibbald RG1, Orsted HL, Coutts PM, Keast DH. Advances in Skin & Wound Care. 20(7):390-405, JUL 2007*
3. *Buku Garis Panduan Perkhidmatan Penjagaan Luka. Bahagian Pembangunan Kesihatan Malaysia 2019. (Family Health Development Division, Ministry of Health, Malaysia 2019.)*

RESULT

DAY 59 (20/9/21)
Continue anti-infective dressing RTD and offloading

T : Wound tissue viable < 25% (slightly presence wet tendon over right toe)
I : No presence of wound infection
M : Wound moisture shown presence of wound serous, no active fluid (clear and watery fluid)
E : Epidermal wound advancing over dorsal and plantar

- Wound Stage: 4
- Pain score: 4
- Vital Sign: 110/60, dxt: 6.0 mmol/l

Tendon seen over big toe. Other than the usual wound wash and soak, hydrogel & RTD, extra offloading dressing (Mandakini) was added in the regime.

DAY 91 (22/10/21)
Continue anti-infective dressing and offloading

T :Wound tissue viable < 25% (slightly presence wet tendone over right toe)
I : No presence of wound infection on wound bed
M : Wound moisture shown presence of wound serous, active fluid (clear and watery fluid)
E : Epidermal wound advancing over dorsal and plantar

- Wound Stage: 4
- Pain score: 6
- Vital Sign: 120/60, dxt: 6.0 mmol/l

Soaking method dressing applied with dermacyin, applying hydrogel, and the most important RTD foam to help reduce bacteria load on wounds. Wound bed granulating.

Presentation supported by:

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