Case Study Report

Two weeks challenge of wound bed preparation: A Metcovazin® Reguler case study as primary dressing

Ns. Pipit Lestari, S. Kep., CWCC., CST

Case Information

Age: 65 **Sex:** Female
Metcovazin® Product Used:
- Metcovazin® Reguler

Case Outcome:

Metcovazin® Reguler has significant impact on treating chronic infected wound to achieve wound bed preparation within two weeks of treatment.


Initial Visit


After 2 weeks

Introduction

[Wound bed preparation is essential measure of chronic wound to accelerate the wound healing process. WBP aim to provide an optimal wound healing environment by producing a well-vascularized, stable wound bed with small exudate 1]. Wound bed preparation is achieved using TIME (Tissue management, Infection control and prevention, Moisture Balance, and Epithelial advancement). The faster the wound bed preparation is achieved the better for the wound healing process. Wound bed preparation is usually targeted to be accomplished within 2-4 weeks since initial treatment. Metcovazin regular is cream dressing that contain zinc and chitosan molecules. In wound healing, zinc is known to play important function in regulating the process, it promotes membrane repair, coagulation, inflammation and immune response, tissue re-epithelialization and angiogenesis [2]. Chitosan is acknowledged has effect on enhancing the polymorphonuclear neutrophils, macrophages and fibroblasts role in wound healing. Thus it helps granulation tissue formation and organization of tissue. It also has endogenous antimicrobial effect and properties that act as a delivery vehicle for antimicrobial drugs such as systemic antibiotic to reach to viable tissue area. [3].

Case Presentation

A 65 years old woman was admitted to Wocare Center due to progressive alteration of wound. The wound appeared 4 days prior admission. The wound presentation was unstage, necrotic 30%, slough 70%, heavy purulent exudates, erythema and oedema from the dorsal pedis until around the knee, tunnelling was identified from the wound in the dorsal to the area near the knee. The patient reported pain and feeling unwell, decrease appetite. Vital sign showed BP 170/80 mmHg, Blood glucose 144 mg/dL, Temperature 37,8 degree celcius. Patient has no history of diabetes or other chronic wound. The leukocyte blood count was more than 17000 x10^9/L. Bates Janse Assessement Tool Score 59

Fig 1. First dressing change (30/09/2020)

Fig 2. Third dressing change (05/10/2020)

Fig 3. Fourth dressing change (08/10/2020)

Fig 4. Sixth dressing change (15/10/2020)

Methods

TIME (Tissue management, Infection control, Moisture balance, and Epithelial advancement) concept was conducted to manage the wound. Dressing was changed every 3 days. Holistic approach was applied to address patient issues.

Outcome of Management

As we can see in **Figure 2** after 3 times dressing change the wound presentation showed improvement, the granulation tissue increase to 50%, and slough decrease 50%, oedema and erythema decrease, and there is improvement of pain perceived by patient. However the wound exudate is still high and cause maceration.

After the 6th dressing change or two weeks after initial treatment the wound presentation was significantly improved as proved by the 100% granulation wound bed, serous mild exudate, edema is not present, erythema decreased compared to the previous treatment, wound edge showed improvement as the epithelial tissue started to grow (**Figure 4**). Patient also report decrease of perceived pain which increase her sleep quality. Bates Jansen Assessment Tool Score 39.

Discussion

The Metcovazin® Reguler as primary dressing accelerate the wound bed preparation in two weeks treatment in chronic infected wound with no history of chronic disease. Study showed that the zinc oxide that is used topically accelerate the autolytic debridement, cell migration, and epithelization.[4] Zinc is essential compound in the reconstitution of ECM, ECM is reservoir of various cytokines, growth factors and molecular cues, both active and latent, to promote cellular migration, epithelialization, adhesion and wound contraction[2]. ECM is important structure for tissue differentiation [5]. In addition, topical zinc treatment also rise the monocyte adhesion into endothelial cells which is important in immune response [2]. Thus, zinc in the form of zinc oxide that is applied topically can reduce inflammation in the wound.

In this study we could identified the reduction of inflammation signs such as erythema and edema in each dressing change. Moreover Metcovazin regular contain chitosan in its ingredients. Chitosan as well as zinc has effect on tissue formation and infection treatment. Study identified that chitosan had effect on initiation of fibroblast formation and collagen deposition [5]. Topical use of chitosan has antimicrobial effect and analgesic effect on wound. [5] However, we also used silver dressing in combination of metcovazin regular as topical antimicrobial dressing to control the infection on the wound. Thus, it is not clear whther metcovazin regular has significant impact as antimicrobial dressing. So, further investigation using single dressing is recommended to prove its effectivity.

Sumber:

1. Halim, A. S., Khoo, T. L., & Saad, A. Z. (2012). Wound bed preparation from a clinical perspective. Indian journal of plastic surgery : official publication of the Association of Plastic Surgeons of India, 45(2), 193–202. https://doi.org/10.4103/0970-0358.101277
2. Lin, P. H., Sermersheim, M., Li, H., Lee, P., Steinberg, S. M., & Ma, J. (2017). Zinc in Wound Healing Modulation. Nutrients, 10(1), 16. https://doi.org/10.3390/nu10010016
3. Dai, T., Tanaka, M., Huang, Y. Y., & Hamblin, M. R. (2011). Chitosan preparations for wounds and burns: antimicrobial and wound-healing effects. Expert review of anti-infective therapy, 9(7), 857–879. https://doi.org/10.1586/eri.11.59
4. Lansdown, Alan., Mirastschijsk, Ursula, Stubbs, Nicky., Scanlon, Elizabeth, Agren, Magnus.(2007). Zinc in wound healing: Theoretical, experimental, and clinical aspects. Wound Repair and Regeneration: 5 2–16
5. Bano, I., Arshad, M., Yasin, T., Ghauri, M. A., & Younus, M. (2017). Chitosan: A potential biopolymer for wound management. International journal of biological macromolecules, 102, 380–383. https://doi.org/10.1016/j.ijbiomac.2017.04.047

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PT. Pohon Bidara Medika
Jl. Soleh Iskandar No. 9
Bogor - Jawa Barat 16166

www.metcovazin.id
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