

## **Exudate management in diabetic foot patient.**

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Exudate assessment and management is vital to wound treatment outcome. As excessive exudate production or dry wound environment interferes with wound healing and has a detrimental effect on patients' quality of life. Exudate management is essential as optimum level of moisture enhance wound healing. Effective exudate management requires a multidisciplinary team and the individualized management. The management includes systemic, local and wound related interventions. Furthermore, wound care must specifically address exudate-related problems and surrounding skin to improve patient quality of life.

This is a case of a 66 years old diabetic patient who had infected wound. Patient condition started 2 weeks PTA, when his foot got infected due ill-fitting sandals. 1 week PTA, he noted a bullae on the dorsum of the foot and self medicated with ointment and took unrecalled medicine. 2 days PTA, foul smelling discharge and fever was noted hence the admission.

On admission, a focus pertinent physical examination showed a Grade 2 femoral and popliteal pulses; grade 1 posterior and dorsalis pedis pulses; 4 x 3 x 1 cm ulcer at dorsum of the foot with 3 cm undermining at the dorsum. A necrotic tissue at mid plantar aspect with foul smelling discharge (Figure 1 and 2). Vital showed tachycardia and a blood pressure of 90/60 mmHg. A multidisciplinary management with medical, surgical, and ancillary team was done.

A midfoot amputation (Figure 3) was done after the patient was stabilized medically. Holistic assessment and management of the medical condition was attended. A foam dressing and a wadding sheet to secure the dressing was applied on the post operative site (Figure 4). Upon changing the dressing, it was noted that there was a biofilm, moderate amount of serous discharge and maceration at surrounding skin area (Figure 5). Assessment of the wound includes evaluation of the wound bed, the wound edge, and the surrounding skin. Assessing the dressing before and after changing the material provides important information about the nature of the exudate and the performance of the device applied. In this case, there was a moderate discharge and biofilm on the wound bed. To deal with the exudate-related problems such as moderate amount of discharge and maceration a more frequent change of dressing with a foam dressing was done to absorb more exudate and lessen the maceration. The biofilm treatment strategy done was frequent surgical debridement and the use of antiseptic solution while changing the dressing with silver foam dressing. The surrounding skin was applied with skin barrier to control the skin erosion cause by the maceration. On the following assessment, the maceration at surrounding area was lessened. However, frequent dressing change demands more nursing time, apparent increase hospital expenses and emotional impact to the patient. To improve the exudate management, a negative pressure wound therapy was applied (Figure 7). Using a negative pressure wound therapy (NPWT) optimizes the exudate management, wound bed preparation, and infection control that contributes to eventual improvement of the

patient's overall condition. A skin barrier spray was utilized at the periwound area. A serial intermittent NPWT was employed until a good granulation tissue was noted at the wound bed (Figure 8). After a negative growth of bacteria was determined, a split thickness grafting (STSG) was used to cover the wound defect (Figure 9 and 10). The STSG was secured with polyurethane foam dressing (Figure 11) and stabilized with posterior splint. The use of foam dressing in the recipient and donor site of STSG handles the exudate by absorbing it and/or allowing it to evaporate. Simple absorptive dressing materials that take fluid up into spaces in their structure are not able to retain exudate. Some dressing materials can retain a high proportion of absorbed fluid. The post operative days were unremarkable. On the succeeding dressing change, there was 100% take of the recipient site. The patient was happy with the outcome of managing the exudate of the wound.

Exudate production is natural in wounds. Nevertheless, when the wound has insufficient or excess fluids an exudate-related problem such as maceration, infection, and poor wound healing will decrease the quality of life of the patient. A thorough consideration of the contributory factors reduce the likelihood of exudate problems. A multidisciplinary management of the systemic problems can help to encourage healing and avoid unwarranted health burden costs.

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**Appendix:**

Figure 1 and 2



Figure 3:



Figure 4:

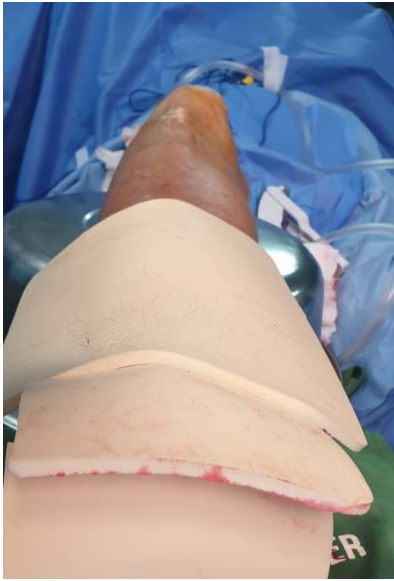


Figure 5:



Figure 6:



Figure 7:



Figure 8:

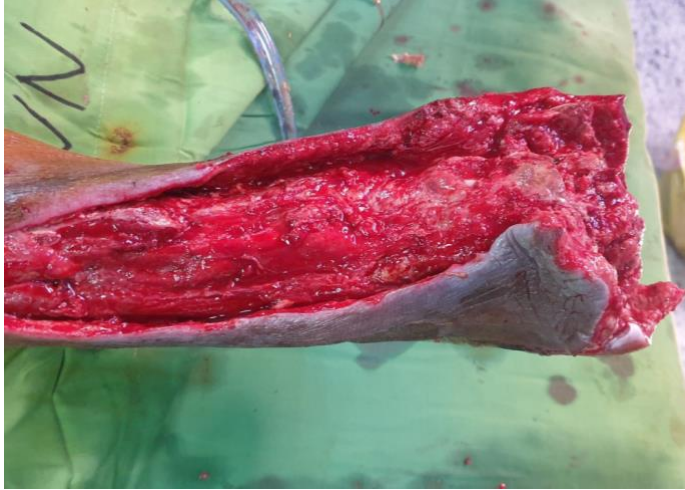


Figure 9 and 10



Figure 11:

