MANAGEMENT OF AN INFECTED SKIN TEAR

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The patient was a 97-year-old woman who lived at home independently with her husband. She had fallen on the stairs and sustained injuries requiring admission to the emergency care centre. She presented with multiple abrasions, bruising and a skin tear to the lower leg which required sutures. She was admitted overnight for observation, but became unstable and suffered a myocardial infarction. She was subsequently diagnosed with pulmonary oedema, cardiomagey and pneumonia.

The patient was cared for on a medical ward for two weeks where she remained very unstable. A decision was taken with the family not to actively resuscitate in the event of a cardiac arrest.

The patient was referred to the tissue viability nurse because the wound deteriorated and developed a clinical infection. At the first wound assessment by the tissue viability nurse the wound measured approximately 4x3cm and was 1cm deep. The wound bed was unhealthy with approximately 20% necrotic tissue, 40% slough, and exposed tendon (Figure 1). The per-wound skin was fragile with surrounding cellulitis. There was moderate exudate and the wound was very malodorous. No local antimicrobials were used at this stage, and the wound was treated with a foam dressing and bandage.

Microbiology results indicated that clinical infection was present with a wound culture identifying a heavy growth of KIebekella and scanty growth of gram positive Staphylococcus C – the systemic antibiotic amoxacillin/clavulane potassium was prescribed as a result. The patient's C-reactive protein (CRP) level was 26.5, white cell count (WCC) 13.8 and Hb 9.0. Low Hb indicates a reduced oxygen-carrying capacity of the blood, increasing the risk of infection and delayed healing as a result of possible low oxygen tension at the wound sites. Raised CRP and WCC are inflammatory markers secondary to infection.

The patient's pain score was 8 (using a visual analogue scale of 0-10 with 10 being extreme pain), she was unable to stand and had a poor appetite. She said of her wound: 'My leg smells. I think everyone can smell it.' She clearly found this distressing.

The wound had been managed with a foam dressing with a buffer bandage (Softban) and craps retention. The prescribed management was to use Suprasorb X+PHMB (Activa Healthcare, Burton-upon-Trent), with a secondary adhesive foam dressing. Suprasorb X+PHMB was chosen to aid autolytic debridement while reducing the wound burden and protecting the tendon. The foam dressing provided a semi-occlusive, absorbent secondary dressing. No bandage was applied at this stage so that the cellulitis could be monitored. The dressings were changed on alternate days and the patient was monitored for clinical signs of infection.

Poor nutrition was also identified and she was referred to a dietitian for nutritional support. Nutritional supplements were advocated to support wound healing and her legs remained elevated in an attempt to alleviate the oedema.

Six days later, following three dressing changes there was significant wound progress. The wound dimensions were now 3x3cm and 0.5cm deep (Figure 2). Necroses and slough had debrided to reveal healthy granulation tissue (approximately 40% slough and 60% healthy wound bed). The per-wound skin was healthy and, while the tendon remained exposed, it was hydrated and healthy. There was moderate exudate, no cellulitis and no malodour. The patient's pain score had reduced to 3 and she was standing with assistance.

The nurses found the dressing easy to apply and the patient said that the dressing was comfortable and easy to remove. The patient continued the prescribed treatment with an added buffer bandage (Softban) and craps retention to aid venous return and improve the mild lower leg oedema. Compression therapy was not considered due to her unstable heart condition.

After 11 days of treatment there was extraordinary progress, particularly when considering the patient's co-morbidities. There was little change to the wound's dimensions, however, there was robust granulation tissue to the tendon and wound bed with no malodour, low exudate and no significant growth on wound culture (Figure 3). The oedema to the lower leg had also reduced after application of the support bandaging and increased mobility.

The patient clearly had an identified wound infection and was treated with systemic antibiotics accordingly. The wound was simultaneously autolytically debrided while controlling the surface microbiota with Suprasorb X+PHMB. While this proved effective in protecting the tendon and promoting rapid granulation, we cannot attribute resolution of the infection solely to the antimicrobial dressing in this situation, but should consider it an adjunct to promoting healing in this complex wound.

Shortly after this, the patient was able to be transferred to a rehabilitation unit for a short stay before discharge home.

Figure 1: A debilitated wound following skin tear submergence. It was infected and malodorous and contained necroses and slough surrounding exposed tendon.

Figure 2: The wound following six days of treatment with Suprasorb X+PHMB. The wound now had no malodour and the patient's pain levels had reduced.

Figure 3: The wound at final assessment with robust granulation tissue covering the tendon and surrounding wound bed.