+ Case Study

Smith+Nephew

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Use of PICO◊ 7 Single Use Negative Pressure Wound Therapy (sNPWT), IODOFLEX◊ Cadexomer Iodine Dressing and ALLEYVN◊ GENTLE BORDER Foam Dressing to treat two dehisced fasciotomy wounds to the lower leg

+ Case study plus points

Dressing change frequency reduced when PICO 7 sNPWT was applied

An IODOFLEX dressing helped with wound bed preparation before applying PICO 7 sNPWT

The patient reported a reduction in pain following treatment with IODOFLEX dressing and PICO 7 sNPWT

Introduction

This case study follows the wound healing journey of a patient who developed a blood clot to the leg, leading to surgical intervention. The two fasciotomy wounds went on to become dehisced, showing little signs of improvement. The impact of these wounds caused the patient to become bed bound and had a negative impact on their quality of life.

Case presentation

A 69-year-old patient with a medical history of type 2 diabetes, cerebral vascular accident (CVA), atrial fibrillation (AF), ischemic heart disease, heart failure and hypertension, was admitted to hospital after failing to take their anticoagulant medication for 5 days. This resulted in the patient developing a thrombosis to the right lower leg. A deep vein thrombosis (DVT) is a clot in the vein, generally located in the lower leg which can be life threatening.[1] A DVT is usually treated with blood thinning medication and can sometimes result in requiring surgical intervention.[1]

Following a fasciotomy, the patient was left with two incision sites which failed to heal and subsequently dehisced. The patient was discharged from hospital and wound treatment was continued in the community. The patient was seen 6 weeks post-surgery and had been treated during this time with a gelling fiber, alginate gel and an absorbent secondary dressing; however, it was noted that there had been minimal improvement. At the initial assessment, wound 1 (on the medial aspect of the right leg) measured 15cm long, 2cm wide and 1cm deep. Wound 2 (on the lateral aspect of the right leg) measured 14cm long, 2cm wide and 1cm deep (figure 1). Both wounds exhibited 50% granulation and 50% slough with the assessment noting moderate exudate levels. An alginate gel was applied with a secondary dressing to encourage autolytic debridement of the slough on the wound bed. The patient also reported their pain score as being 6 out of 10 (10 being highest) which had resulted in the patient becoming bed bound, requiring assistance to wash and unable to participate in their normal daily activities. They also reported that the pain level was impacting on their ability to socialise, which subsequently led to the patient feeling isolated and lonely.

Treatment

When the wound was assessed again 7 days later, the wound status was reported as deteriorating and although the dimensions of the wound had reduced, the presentation of the wound bed was 80% slough and 20% granulation tissue across both wounds. Therefore, the treatment was changed to an IODOFLEX Dressing and an ALLEVYN GENTLE BORDER Dressing in order to remove any potential bioburden[2] and to help with exudate management.[3,4] The patient remained in pain but noted a slight reduction in pain during the wear time of the IODOFLEX dressing. Following another 7 days, where the dressings were changed 3 times a week, the wound assessments showed a positive reduction in size. Wound 1 had reduced its length to 9cm and the width recorded as 1cm, and wound 2 showed a length reduction to 8cm and the width to 0.8cm; both wounds had a depth of 0cm (figure 2). The wound bed of both wounds appeared to improve with only 5% slough to each site. Exudate levels were low, and the patient's pain score was 3 out of 10. To promote further wound healing,[5] the decision was made to apply PICO 7 sNPWT with a 25cm x 25cm dressing to cover both wounds (figure 3), this reduced the patient's dressing change appointments from 3 times a week to once a week which was beneficial for the patient's quality of life. They found the therapy easy to manage at home and reported a positive reduction in pain levels.

PICO 7 sNPWTwas used for 14 days, at which point the wounds had shown further improvement, both exhibiting 0% slough, 80% granulation tissue and 20% epithelial tissue with healthy looking wound edges (figure 4). The patient's treatment had been guided by the PICO sNPWT non-healing wounds clinical practice pathway[6] whereby a wound which reduces in size by over 40% with the use of PICO sNPWT is considered a good responder to treatment and therefore sNPWT should be discontinued. As a step down, an IODOFLEX Dressing and an ALLEVYN GENTLE BORDER Dressing were applied until the wound achieved healing, a total of 6 weeks.

Overall, PICO 7 sNPWT was reported as being easy to apply and patient found the system convenient and easy to use at home. The IODOFLEX dressing worked extremely quickly, removed slough effectively and was easy to apply.

Figure 1: Initial presentation of wound

LWD:
Wound 1 (left) 15 x 2 x 1cm
Wound 2 (right) 14 x 2 x 1cm

Figure 2: Following 7 days of IODOFLEX and ALLEYVN GENTLE BORDER dressings

Wound 1 (left)
Wound 2 (right)

Figure 3: PICO sNPWT 25 x 25cm dressing in situ, covering both wounds

Wound 1 (left)
Wound 2 (right)

Figure 4: 5 weeks post surgery

LWD:
Wound 1 (left) 4 x 0.7 x 0cm
Wound 2 (right) 4 x 0.4 x 0cm

Results may vary

Summary

This case study has followed a patient's wound healing journey after developing a DVT in the right lower leg. The DVT resulted in the patient needing surgical intervention. A combination of products were used to achieve different objectives throughout the wound healing process. The IODOFLEX dressing was used successfully to debride and remove slough which was present in the wounds. PICO 7 sNPWT aided in the continued positive wound healing trajectory of both wounds as per the PICO sNPWT non-healing wounds clinical practice pathway. The treatment plan helped towards reducing the patient's pain levels, reducing dressing changes and improving the patient's quality of life.

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References 1. NHS DVT (deep vein thrombosis) https://www.nhs.uk/conditions/deep-vein-thrombosis-dvt/. Accessed 18/07/2024. **2.** Malone M, JohaniK, Jensen SO, et al. Effect of cadexomeriodine on the microbial load and diversity of chronic non-healing diabetic foot ulcers complicated by biofilm in vivo. J AntimicrobChemother. 2017;72(7):2093-2101. **3.** Hurd T, Gregory L, Jones A, Brown S. A multi-centre in-market evaluation ALLEVYN Gentle Border. Wounds UK. 2009;5(3):32-44. **4.** Smith & Nephew 2017. ALLEVYN Gentle Border Gen 2 -Physical Evaluation. Internal Report. DS/16/424/R V3. **5.** Kirsner R, Dove C, Reyzelman A, Vayser D, Jaimes H. A Prospective, Randomised, Controlled Clinical Trial on the Efficacy of a single-use Negative Pressure Wound Therapy System, compared to Traditional Negative Pressure Wound Therapy in the Treatment of Chronic Ulcers of the Lower Extremities. Wound Repair Regen. 2019;27(5):519 -529. **6.** PICO sNPWT non-healing wounds clinical practice pathway.

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