3 CASE SERIES ON THE USE OF RTD FOAM IN MANAGING DIFFERENT TYPES OF CHRONIC WOUNDS

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INTRODUCTION

The foundation of the management of all types of wounds circle around proper debridement, managing the bacteria balance and controlling the exudate. This optimizes the wound bed and encourages granulation and epithelization, all necessary for wound healing. However, in chronic wounds, biofilm formation and fibrous granulation complicate the healing process, and often require additional dressing strategies.

This case series examines 3 cases of chronic wounds, whom were successfully treated with the use of RTD foam. Each of the cases represent a different form of complexity, but show a common outcome in the healing of chronic wounds.

CASE 1

Mr JAB, 45 years of age, with Diabetes Mellitus and Congestive Heart Failure, developed wet gangrene on the 3rd and 4th toes of his left foot in April 2021. He was admitted to hospital and underwent ray amputation of the 2nd - 5th toes of his left foot. He presented to us on 4 May 2021 on conventional daily dressing, with macerated edges from a highly exudative wound and gaping between the fat pad of the sole and the granulation tissue. Initial wound size was 8cm x 11cm x 2cm.

A decision was made to start him on RTD foam with biofilm debridement and dressing change every 3 days. After just a month, the wound had shrunk to 7cm x 9cm x 0cm, with the gaping region filled up. The maceration had resolved and epithelization was visible. What was notable was that the biofilm accumulation during each dressing was substantially less than prior to the dressing use.

By the 2nd month, the wound had shrunk to 3cm x 7cm x 0cm, and the dressing change was done once every 4-5 days. At 3 months, the wound size was 1.5cm x 4cm x 0cm and we discharged him with his wound nearly healed about 4 months after initiating treatment on 21 Sep 2021.

CASE 2

Mr RBS, 56 years of age, with Diabetes Mellitus and Hypertension, was admitted to hospital for an abscess with surrounding cellulitis over his right shin. Wound debridement by the surgical team was thorough, resulting in a huge wound with part of the tendon exposed. He presented to us on 23 Mar 2021 with an initial wound size of 24cm x 11cm x 1cm. He was placed on a hydrofiber silver dressing but after a month the wound was only at 22cm x 10cm x 0.5cm. The team also reported thick biofilm presentation each dressing change, requiring surgical debridement to disrupt and remove, causing slow granulation.

A decision was made to change his dressing from hydrofiber Ag to RTD foam and within a month, the wound had fully granulated, the tissues were healthy looking, and epithelization was progressing. Wound size was measured at 18cm x 8.5cm x 0cm. By the 2nd month of using the foam, wound size had shrunk to 10cm x 4cm x 0cm with dressing change once every 4-5 days, and minimal debridement required each time. At 3 months, the wound size was 5cm x 2cm x 0cm and we discharged him with his wound fully healed about 4 months after utilizing the foam on 5 Aug 2021.

CASE 3

Mdm MAL, 48 years of age, with Diabetes Mellitus and Hypertension, was discharged from hospital after extensive debridement of her left foot from an abscess. She presented to us in Mar 2020 and the wound was cared for with hydrofiber silver dressings and regular debridement. The wound started healing well, and by 4 months (Jul 2020), it had halved in size, and further shrunk to 5cm x 4cm x 0cm by 7 months (Oct 2020). Then healing was complicated with the development of wound bed fibrosis and epithelization came to a standstill. Multiple attempts were made by the wound care team to try to convert the wound to an active wound but to no avail.

By 21 Jun 2021, the patient was depressed, and the team was ready to give up and refer surgical for debridement of the fibrotic tissue. But a last minute decision was made to do a trial using RTD foam. After a month, we noticed that there was new active granulation tissue appearing amongst the fibrotic tissue. By the 2nd month, the wound had started shrinking and by the 3rd month, it was measured to be 1cm x 1cm x 0cm. We discharged her with her wound fully healed on 28 Oct 2021, 4 months after using the foam.

DISCUSSION

When dealing with chronic wounds, biofilm is most commonly controlled by regular debridement. But regular debridement also means frequent removal of part of the active granulation tissue causing it to grow slower and increasing the risk of fibrosis as time passes. This stagnants the wound healing process as epithelization does not occur over fibrotic tissue. Heavily exudative wounds also slow down epithelization by causing maceration of the surrounding tissues, yet removing too much of the exudate forces the wound to progress into dry healing which will lead to necrosis in large wounds.

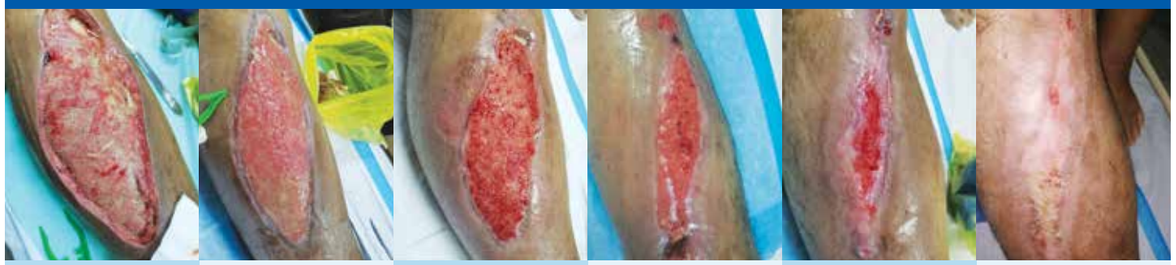
A broad spectrum antimicrobial dressing containing methylene blue, gentian violet and silver ion incorporated into a medical grade polyurethane foam provides a solution to the above issues. Methylene blue and silver ions which are antibacterial and gential violet with its additional antifungal properties reduce biofilm build up. Besides being highly absorbent, the polyurethane foam also applies capillary suction therapy which promotes neovascularization and granulation. It also provides a continuous moist environment for moist wound healing, yet protects the surrounding skin and epithelization from maceration.

Ultimately, regular debridement of biofilm combined with RTD foam shortens the wound healing period and with it, reduces the period of suffering for the patient.

Case 1 - Wet Gangrene + Rays Amputation Left Foot

Day 1 - 4.5.2021 8cm X 11cm X 2cm	1st Month - 9.6.2021 7cm X 9cm X 0cm	2nd Month	3rd Month	4th Month 1.5cm X 0.5cm X 0cm Discharged

Case 2



1st Presentation - 23.3.2021 24cm X 11cm X 1cm	2nd Presentation - 15.4.2021 22cm X 10cm X 0.5cm Started on RTD Foam	1st Month on RTD Foam 18cm X 8.5cm X 0cm	2nd Month on RTD Foam 10cm X 4cm X 0cm	3rd Month on RTD Foam 5cm X 2cm X 0cm	4th Month on RTD Foam Wound Healed Discharged

Case 3

1st Presentation - 20.3.2020 16cm X 10cm X 0.5cm	After 4 Months - 18.7.2020 7cm X 6cm X 0cm	After 7 Months - 10.10.2020 4cm X 3cm X 0cm	Stagnant for 10 Months - 21.6.2020 4cm X 3cm X 0cm Changed to RTD Foam

1st Month on RTD Foam 4cm X 3cm X 0cm Granulation Seen	2nd Month on RTD Foam 3cm X 3cm X 0cm Reduction Started	3rd Month on RTD Foam 1cm X 1cm X 0cm	4th Month on RTD Foam - 28.10.2021 Wound Healed Discharged

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