Case Series - Clinical Application of a Highly Absorbent Antimicrobial Polyurethane Foam in Malaysia

Dr. Lee Chin Yen[1,2], Dr. V.A. Jacob[1,2], Dr Gopidran A/L Muthusamy[3], Dato' Sri Dr. N. Premchandran[2]

[1]Wound Care Unit, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia.

[2]Department of Orthopaedics, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia.

[3]Wound Care Unit, Hospital Kuala Lipis, Pahang, Malaysia.

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SOZA HEALTHCARE Sdn Bhd (1001759-X)
Suite 305, Block C, Level 3, Phileo Damansara 1, No. 9, Jalan 16/11,
Off Jalan Damansara, 46350 Petaling Jaya, Selangor Darul Ehsan.
Tel: 03-7931 9981 Fax: 03-7931 9983 Website: www.soza.com.my

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Chronic non-healing wounds are a burden to patients, family and the healthcare system. The prevalence is increasing due to the aging population and compounding chronic medical illnesses. Wound healing is a cascade of physiological response in which the body reacts immediately after sustaining an injury. This dynamic yet well-coordinated processes are divided into four phases (haemostasis, inflammatory, proliferative and remodelling) (Beldon 2010). However, alteration in any of the phases will lead to chronic non-healing wounds.

This case series demonstrated the effectiveness of a new highly absorbent antimicrobial polyurethane foam (containing methylene blue, gentian violet and silver Ag) in dealing with difficult-to-heal wounds. This dressing is versatile and can be used throughout the continuum of healing process (Brooks & Olden 2016).

Case 1 – Mixed Diabetic and Ischaemic Wound

A 75 year-old gentleman with underlying diabetes and peripheral vascular disease presented with an infected wound over the right ankle. Subsequently, he underwent wound debridement and arthrotomy washout of his right ankle. The joint capsule was unfortunately infected. Due to its poor blood supply, it did not heal even after three months of conventional dressings. Split skin graft was not performed as patient was not keen. After applying the highly absorbent antimicrobial foam dressing for twice per week, the wound healed within 2 months.

Case 2 – 10 Years Chronic Bilateral Venous Leg Ulcers

A 55 years-old lady with no known medical illness, presented with venous ulcers over bilateral legs for 10 years. Daily conventional dressing did not help and the wound continued to increase in size. Doppler ultrasound revealed chronic venous insufficiency. The arterial supply was intact. After applying compression bandages and the highly absorbent antimicrobial foam dressing, there was significant improvement within a few months.

Case 3 – Diabetic Foot Ulcer Complicated with Peripheral Vascular Disease

76-year-old lady presented with right foot abscess over the first web space. Post- operatively, this was complicated by gangrene over the second and third toes. After using the highly absorbent antimicrobial foam dressing, the wound over the first web -space gradually healed. The 2nd and 3rd toes were not viable and were disarticulated. The wound healed completely after 2 months after dressings using this highly absorbent antimicrobial foam.

Conclusion

This highly absorbent antibacterial polyurethane foam (containing methylene blue, gentian violet and silver Ag) dressing is effective in managing difficult-to-heal wounds. However, the underlying aetiology of the wound must be established and treated prior to the application of this dressing.

References

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Case 1

Wound 8x5 cm at the anterior aspect of ankle exposing joint capsule and tendon

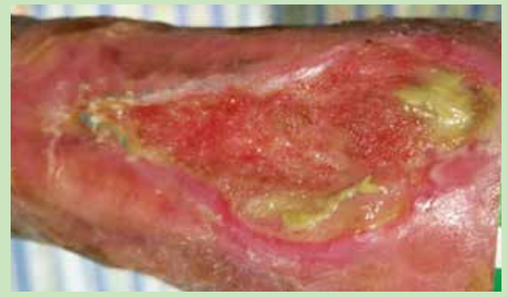
Wound Healed after 2 months (Twice weekly dressing)

Case 2

Left leg venous ulcer at the posterior aspect of the distal leg, 4x4 cm, with heavy exudates and infection

Left leg venous ulcer was healing 2x2 cm

Right leg venous ulcer at the posterior aspect of the distal leg, 10x 5 cm, with heavy exudates and infection



Right leg venous ulcer was healing, 2x4 cm

Case 3

Wound over the 1st web-space with osteomyelitis of metatarsal bone and subluxation of metatarsal-phalangeal joint.

Wound healed completely after 2 months. (2nd and 3rd toes were amputated due to gangrene)