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Original Article

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Management of Chemical Burns: Our Experience

Debolina Pal[1], Ravi kumar Chitoria[2], Neljo Thomas[3]

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Abstract

Chemicals can harm cells directly by various mechanisms and cause an exothermic reaction which can cause thermal burns in addition to chemical burns. Acids and alkali are the two broad categories of chemicals that can cause burns and alkali burns have greater depth of injury than acids. Copious irrigation of chemical burns is the most critical step in management at presentation followed by which various novel methods could be implemented for enhanced healing of chemical burns such as topical wound management including sucralfate cream application, platelet rich plasma application, low level laser therapy, etc. in addition to usual management strategies used in burns patients.

Keywords: Chemical burns; LLLT; APRP; Platelet rich plasma; Sucralfate; Split thickness; Skin graft.

INTRODUCTION

Chemical burns account for only a small percentage of burn injuries, yet they account for up to a third of all burn related deaths.[1] When a chemical comes into touch with the skin, it causes a chemical burn. Chemicals can harm cells directly by a variety of methods, including oxidation, reduction, denaturation, and dehydration, depending on the chemical. Exothermic reactions (chemical reactions that release energy by light or heat) are common, which can result in thermal harm in addition to chemical injury.[2] Chemicals can broadly be classified as acid, alkali, organic, and inorganic compounds. Acids act by denaturation and coagulation of proteins. Alkaline burns cause deeper burns than acids.[3] The clinical appearance of a chemical burn is determined by the substance, its concentration, and the length of contact. A chemical burn may appear similar to a thermal burn at first, with erythema, discomfort, with or without formation of bullae. Chemical burns can also develop a hard, dry eschar, sometimes known as a scab, which darkens the area. Symptoms might be immediate or delayed, depending on the chemical, and determining the extent of the injury can be challenging.[4] Key to management of chemical injuries is to stop the burning process with copious irrigation, and depending on the depth of the injury, the normal burn management of topical medications versus grafting is used. Neutralizing agents are not recommended since they can cause more harm due to exothermic reactions.[1] In this article we have described the variousmethods that were used for management in a patient with chemical burns in a tertiary care center.

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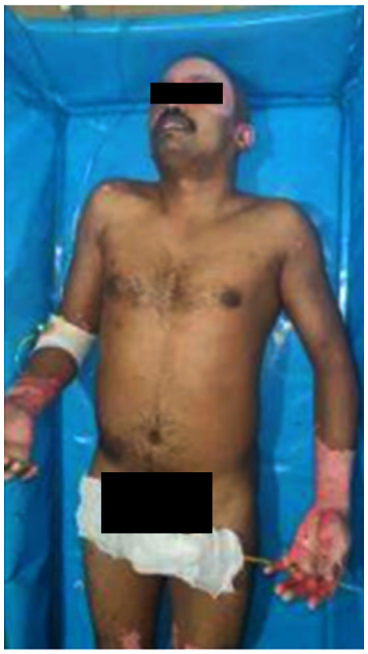
MATERIALS AND METHODS

This study was conducted in the department of Plastic Surgery at a tertiary care centre. The details of the patient are as follows:

A 45 year old gentleman, with no known co-morbidities, a manual labourer at a pharmaceutical company, presented with alleged history of blast injury at a pharmaceutical factory and sustained chemical/thermal burns on 5th June, 2021 at 3:15 pm at Pondicherry, India.

He had sustained second degree burns (superficial and deep partial thickness) over face, bilateral hands, left thigh and bilateral feet which comprised 20 % burns (fig.1). Initial management included copious irrigation of raw areas using normal saline, dressing of the raw areas. On 9th June, 2021 he underwent wound debridement under general anesthesia along with additional procedures such as sucralfate application (fig. 2) and low level laser therapy (fig. 4). He also underwent autologous platelet rich plasma application (fig. 3) which was obtained by standard double centrifugation protocol using 10ml of patient`s blood which was used in 3 sittings. Split thickness skin grafting was done after wound bed preparation (fig. 5). At discharge, the raw areas healed with no significant remnant raw areas (fig. 6).



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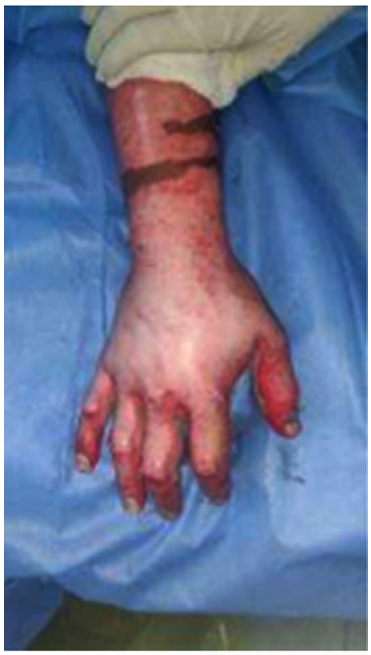

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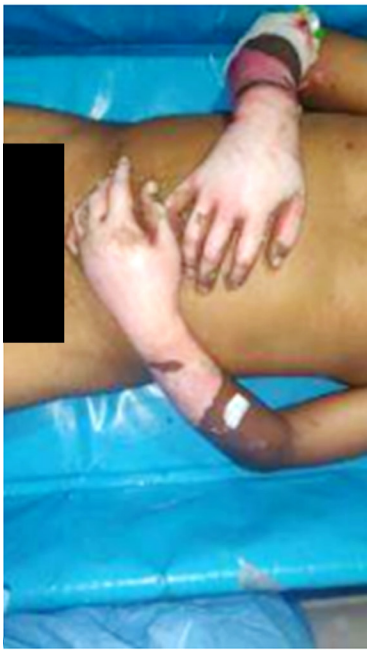

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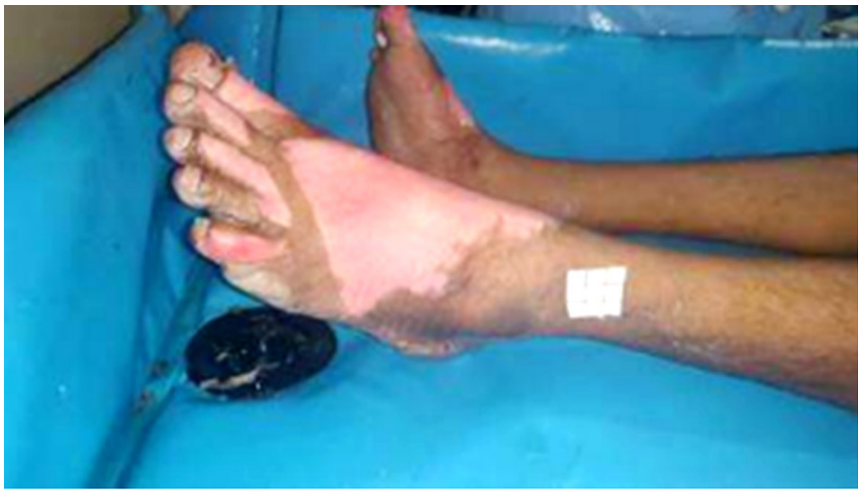

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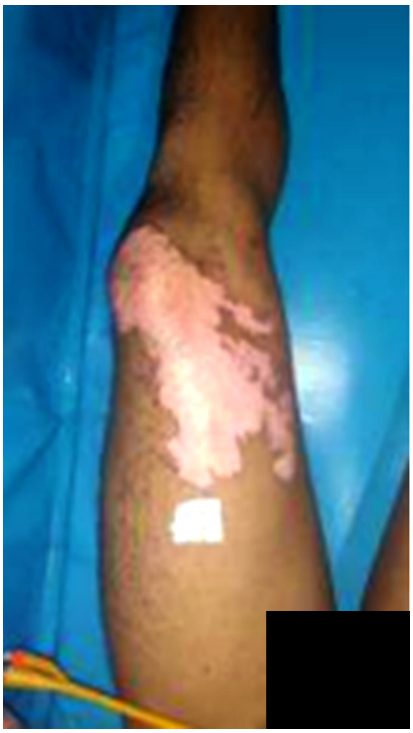
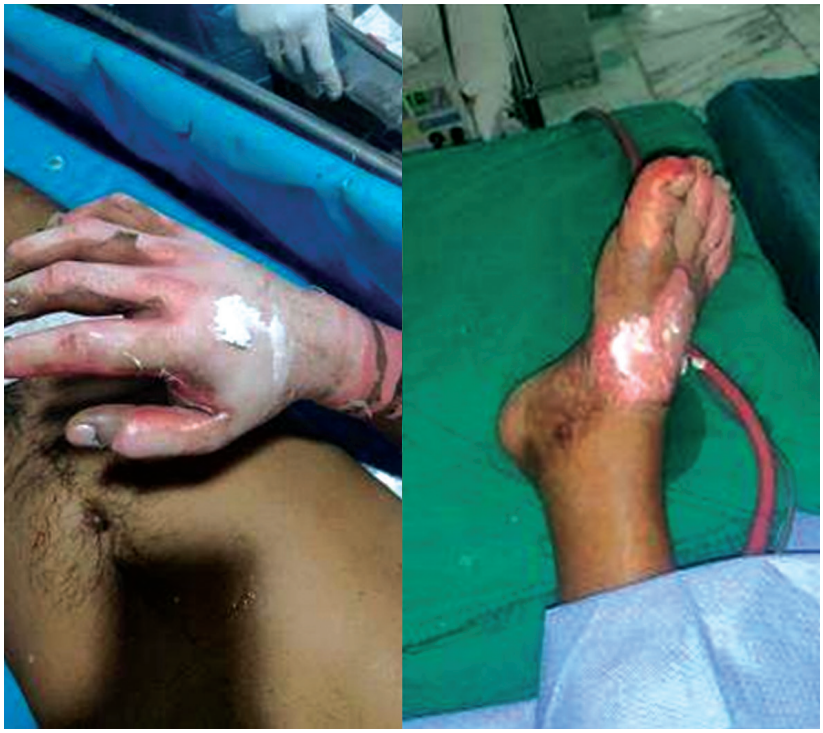


1(E)
Fig. 1: raw areas at presentation



1(E)
Fig. 2: Sucralfate cream application

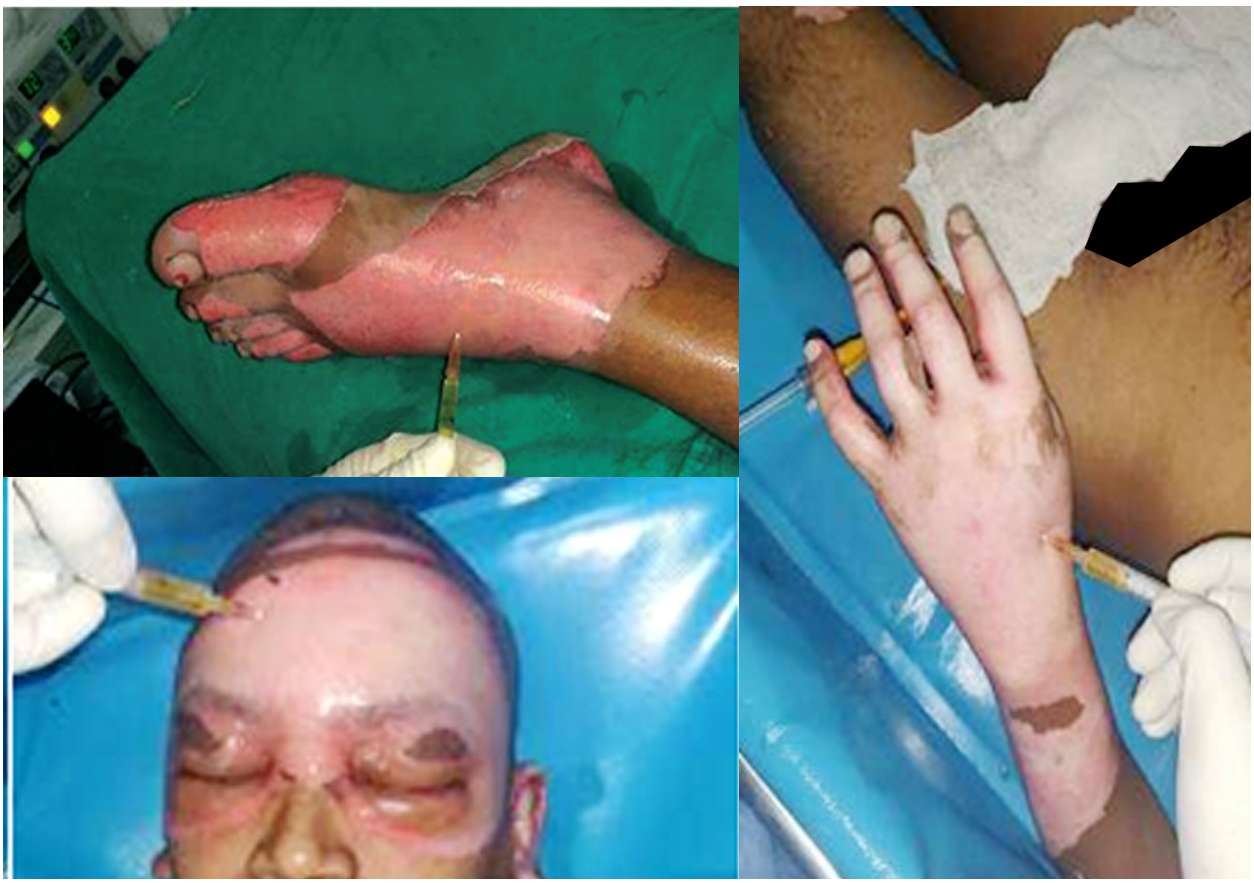


Fig. 3: Autologous platelet rich plasma application

Fig. 4: LLLT (Low level laser therapy)

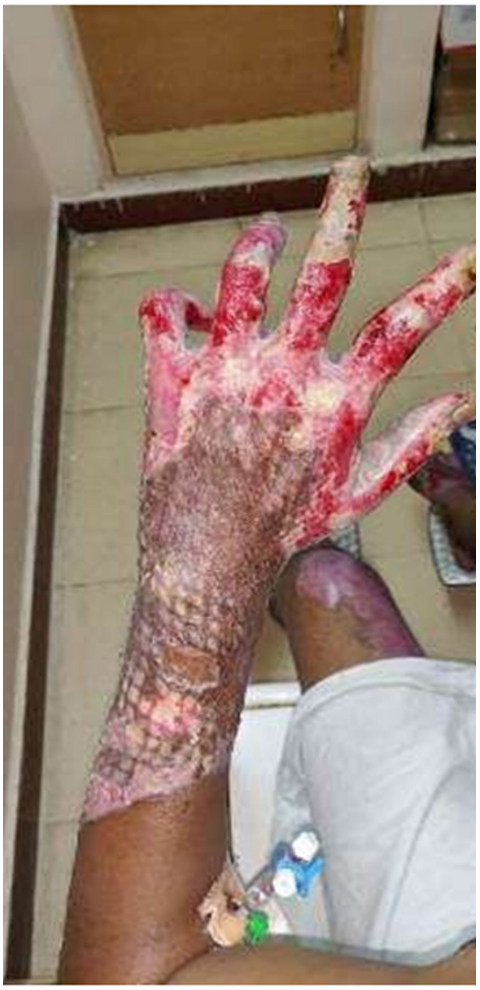


Fig. 5: split skin grafting

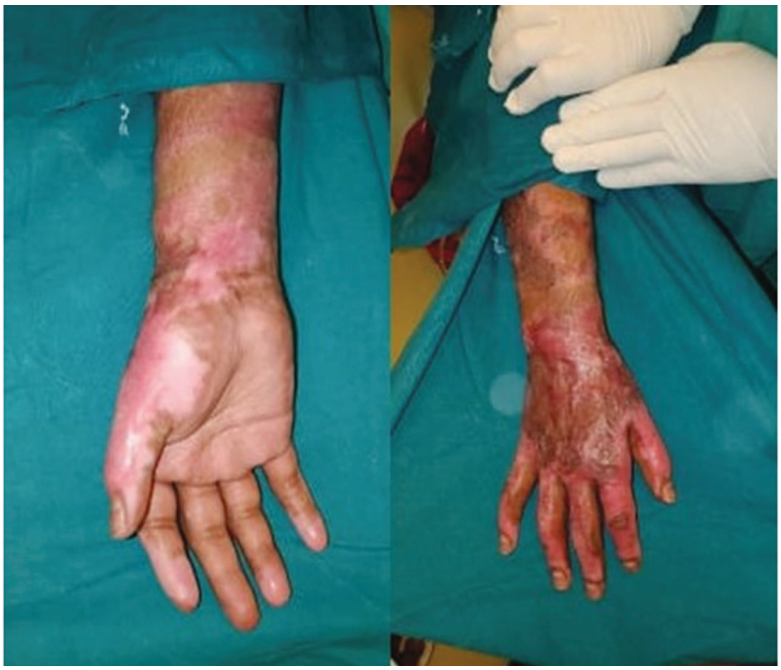


Fig. 6: At discharge Healed wound with no raw area

DISCUSSION

Neoangiogenesis, stimulation of the local immune response, and the presence of growth factors such as epidermal growth factor (eGF), transforming growth factor (TGF), and basic fibroblast growth factor all play a role in wound healing (bFGF). Sucralfate works by boosting the levels of both bFGF and eGF in the injured tissue. It also prevents inflammation and has a soothing effect by inhibiting the release of interleukin-2, interferon gamma, and cytokines from burnt injured skin cells.[6] Topical sucralfate has been reported to promote wound healing and reduce discomfort in the treatment of resistant perineal and peristomal excoriation, stomatitis, decubitus ulcers, and radiation proctitis.[5] The role of topical sucralfate in the treatment of burn injuries was investigated in a study which showed that sucralfate increased the rate of epithelialization and lead to an earlier appearance of healthy granulation tissue in second and third degree burns, respectively. [6]

LLLT or low level laser therapy has been tried for wound management. The photobiomodulation effect of LLLT on tissue is photochemical and photomechanical, with no photothermal effect.[7] A number of different modes of action have been proposed which include activation/deactivation of mitochondrial enzymes, transformation of photonic energy to chemical energy which leads to ATP production, increase in DNA replication which in turn increases neurotransmission and various physiological changes result from a cascade of metabolic consequences, resulting in better tissue regeneration, faster resolution of the inflammatory response, and pain reduction.[7,8]

Platelet rich plasma (PRP) is a new adjunct that is increasingly being used to treat soft tissue defects in order to speed up healing of chronic non-healing wounds.[10-13] Platelet rich plasma is made by combining centrifuged blood with thrombin and calcium chloride to form a viscous coagulum gel that is rich in growth factors released by activated platelets[11,12,14] After preparation, platelet rich plasma is stable for around 8 hours.[11,12] TGF-b and PDGF are the most essential growth factors in PRP. They have an impact on every stage of wound healing because they stimulate cell proliferation and differentiation. PRP also enhances tissue incorporation of biological mesh.[15]

Early burn wound excision and wound closure with immediate autologous skin or skin substitutes, has lowered the mortality rate of severe burns and improved survival chances by minimising infections and metabolic problems. Split thickness skin grafting restores epidermal function, avoids further hypothermia, protein and fluid losses, and infection risk, and integrates itself into the healing process, remains the primary permanent source of burn wound closure.[9]

CONCLUSION

Our experience in management of chemical burns has showed to have positive results with usage of methods such as sucralfate cream application, platelet rich plasma application, low level laser therapy, and split thickness skin graft. There was significant improvement noted with the above methods in healing of raw areas. However, to strengthen the concept, multicentric experiments with a larger sample size are required.

REFERENCES

1. Williams FN, Lee JO (2018) Chemical burns. In: Herndon DN (Hrsg) Total burn care, 5. Aufl. Elsevier, S 408–413.
2. Yin S. Chemical and Common Burns in Children. Clinical Pediatrics. 2017;56(5_suppl):8S-12S. doi:10.1177/0009922817706975.
3. Richards A, Dafydd H. (2015) Burns. In: Key Notes on Plastic Surgery. Chichester, UK: John Wiley & Sons, Ltd; 521-522.
4. Sawhney, CP, Kaushish, R. Acid and alkali burns: considerations in management. Burns. 1989;15:132-134.
5. Hayashi A, Lau H, Gillis D. Topical sucralfate: effective therapy for the management of resistant peristomal and perineal excoriation. J Pediatr Surg. 1991;26:1279–1281.
6. Banati A, Chowdhury SR, Mazumder S. Topical use of sucralfate cream in second and third degree burns. Burns. 2001;27:465–469.
7. Hawkins D, Houreld N, Abrahamse H. Low level laser therapy (LLLT) as an effective therapeutic modality for delayed wound healing. Ann N Y Acad Sci 2005;1056:486-93.
8. Farivar S, Malekshahabi T, Shiari R. Biological effects of low level laser therapy. J Lasers Med

Sci 2014;5:58-62.

9. Nguyen TT, Gilpin DA, Meyer NA, Herndon DN. Current treatment of severely burned patients. Ann Surg 1996;223:14–25.
10. Iesari S, Lai Q, Rughetti A et al: Infected nonhealing wound in a kidney transplant recipient: Successful treatment with topical homologuos platelet rich gel. Exp Clin Transplant, 2015 [Epub ahead of print].
11. Pallua N, Wolter T, Markowicz M: Platelet-rich plasma in burns. Burns, 2010; 36(1): 4–8.
12. Yol S, Tekin A, Yilmaz H et al: Effects of platelet rich plasma on colonic anastomosis. J Surg Res, 2008; 146(2): 190–94.
13. Kazakos K, Lyras DN, Verettas D et al: The use of autologous PRP gel as an aid in the management of acute trauma wounds. Injury, 2009; 40(8): 801–5.
14. Carter CA, Jolly DG, Worden CE Sr et al: Platelet-rich plasma gel promotes differentiation and regeneration during equine wound healing. Exp Mol Pathol, 2003; 74(3): 244–55

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Original Article

Indian Journal of Legal Medicine
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Role of Cyclic Negative Pressure Wound Therapy in Pediatric Scald Burn

Jacob Antony Chakiath[1], Ravi Kumar Chittoria[2]

How to cite this article:

Jacob Antony Chakiath, Ravi Kumar Chittoria/Role of Cyclic Negative Pressure Wound Therapy in Pediatric Scald Burn/Indian Journal of Legal Medicine. 2021;3(2): 57–59.

Abstract

Over the past decades, the application of "negative pressure" has evolved to a cornerstone in the treatment of acute and chronic wounds in almost all specialties. The cyclic NPWT system is similar to the intermittent mode in terms of using the same maximal sub atmospheric pressure, but the pressure never reaches zero in the cyclic mode. The role of cyclic negative pressure wound therapy (NPWT) in burns are widely studied. In this case report, cyclic NPWT was utilised in a child with scald burns to evaluate the efficacy.

Keywords: Cyclic negative pressure wound therapy; Burns; Scald.

INTRODUCTION

The cyclic NPWT system is similar to the intermittent mode in terms of using the same maximal sub atmospheric pressure, but the pressure never reaches zero in the cyclic mode. So, it continuously creates certain pressure gradient that oscillates between 125 mmHg and the preset sub atmospheric pressure. The cycle runs based on the changes in sub atmospheric pressure, not time, and thus its frequency reflects the wound volume.[1] The role of cyclic negative pressure wound therapy (NPWT) in burns are widely studied. In this case report, cyclic NPWT was utilised in a child with scald burns to evaluate the efficacy.

MATERIALS AND METHODS

This study was conducted in a tertiary care centre in department of plastic surgery after getting the department ethical committee approval. Informed consent was obtained for examination and clinical photography. 1 year old male child presented with accidental scald burns which was second degree superficial and deep (mixed) burn over right upper limb and anterior chest and abdomen (fig. 1). Child wound bed preparation was done following which cyclic NPWT was applied. Serial application of cyclic NPWT was done. (fig. 2). The pressure was cycled between 125 to 50 mm Hg in our patient.

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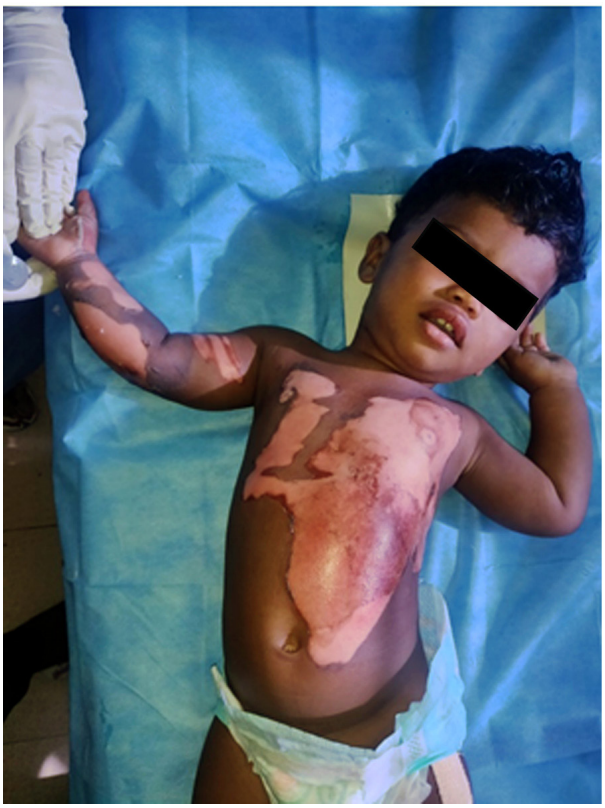

Fig. 1: Scald burn in the anterior chest and abdomen.

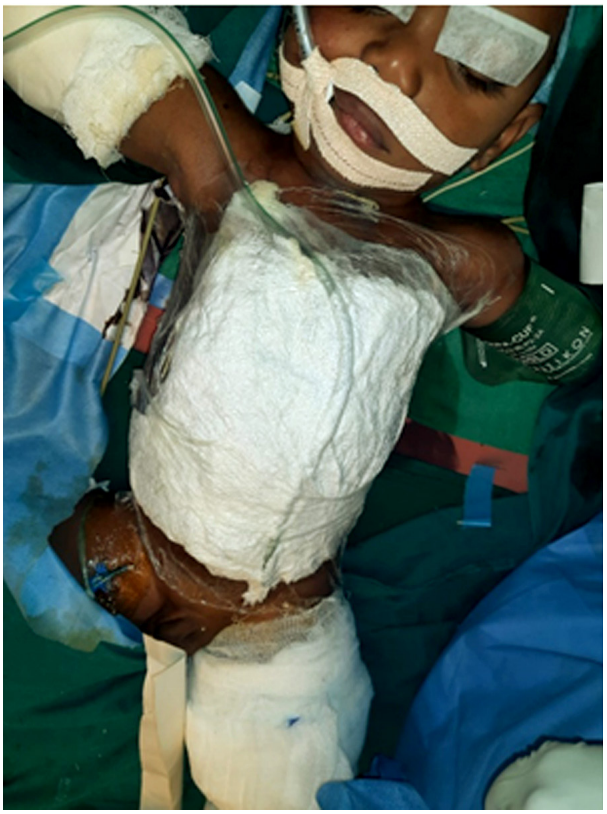

Fig. 2: cyclic negative pressure wound therapy application

RESULTS

After serial application of cyclic NPWT for 14 days, the second degreeburn wound has significantly improved and in third degree burn cycle NPWT helped in wound healing and good uptake of skin graft. Child was pain free at the time of application of cyclic NPWT (fig. 3).

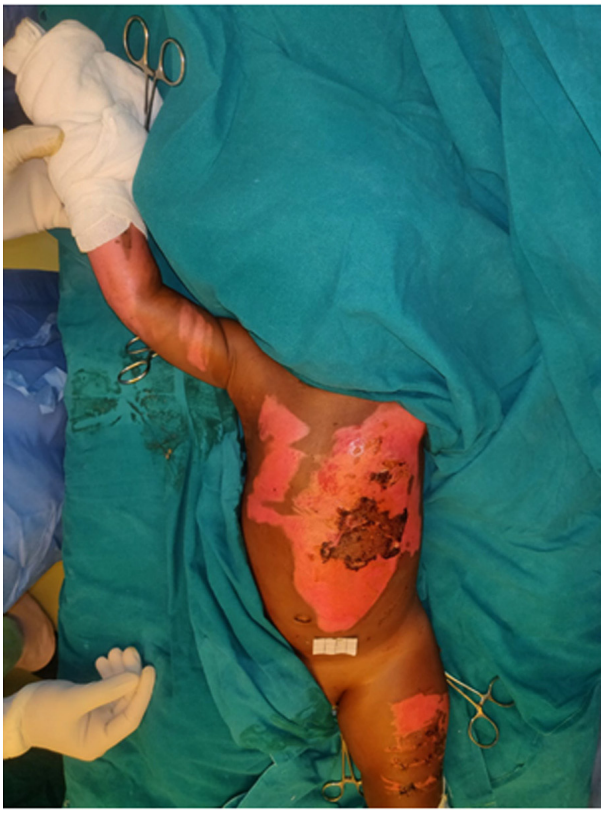

Fig. 3: Scald burn wound after serial application of cyclic NPWT.

DISCUSSION

Over the past decades, the application of "negative pressure" has evolved to a cornerstone in the treatment of acute and chronic wounds in almost all specialties. Various available synonyms reflect the past developments and current applications of the technique involving, amongst others, "Vacuum assisted closure" (VAC), "Negative Pressure Wound Therapy" (NPWT), "closed incision Negative Pressure Therapy" (ciNPT), or "Negative Pressure Wound Therapy with instillation" (NPWTi).[2]

Since the introduction of the negative pressure wound therapy (NPWT) system by Moryk was and Argenta, it has been applied to a number of wounds and has become an influential and

effective technique for healing simple and complex wounds. The conventional NPWT system adopts either 'intermittent' or 'continuous' mode.

While the continuous mode constantly applies a sub-atmospheric pressure of 125 mmHg, the intermittent mode creates a sub-atmospheric pressure of 125 mmHg for 5 minutes and a 2 minutes resting phase of 0 mmHg.

In experiments performed on animal models, the intermittent mode showed increased perfusion level and formation of granulation tissue in the wound area compared with the continuous mode.[3,4] Despite the effectiveness of intermittent mode in wound healing, it has been avoided in clinical application because of the pain occurring every few minutes during the initiation phase of the system to reach 125 mmHg. Thus, 'cyclic' mode would minimize the pain while maintaining the superior efficacy of the intermittent mode.

The cyclic NPWT system is similar to the intermittent mode in terms of using the same maximal sub atmospheric pressure, but the pressure never reaches zero in the cyclic mode. So, it continuously creates certain pressure gradient that oscillates between 125 mmHg and the preset sub atmospheric pressure. The cycle runs based on the changes in sub atmospheric pressure, not time, and thus its frequency reflects the wound volume.

Types of NPWT

1. *Continuous NPWT:* The continuous mode constantly applies a sub-atmospheric pressure of 125 mmHg.
2. *Intermittent NPWT:* The intermittent mode creates a sub-atmospheric pressure of 125 mmHg for 5 minutes and a 2 minutes resting phase of 0 mmHg.
3. *Cyclic NPWT:* The cyclic NPWT system is similar to the intermittent mode in terms of using the same maximal sub atmospheric pressure, but the pressure never reaches zero in the cyclic mode. So, it continuously creates certain pressure gradient that oscillates between 125 mmHg and the preset sub atmospheric pressure.

Cyclic application of "negative pressure" results in a superior local enhancement of cutaneous microcirculation with regards to blood flow and consecutive tissue oxygenation. Beyond that, repeated alterations between different levels of "negative pressure" due to cyclic application represent a greater stimulus for remote conditioning effects, indicating a superior local interaction with the underlying tissue.

An ideal application of a NPWT dressing must respect the individual circumstances of each patient and treated wounds with respect to comorbidities, location of the wound, and tissue composition.[5]

Advantage of cyclic NPWT

1. Less painful when compared to intermittent NPWT.
2. Superior effects on local and remote cutaneous perfusion in the cyclic type compared to others.

In our study, child's scald burn wound showed rapid improvement and was pain free while on cyclic NPWT.

CONCLUSION

Cyclic NPWT shown to be a good adjuvant for the rapid improvement in pediatric scald burn. Cyclic NPWT shown to be less painful compared to other NPWT in pediatric scald burns.

Conflicts of interest: None.

Financial support and sponsorship: None.

REFERENCES

1. Jacob AntonyChakiath, Ravi Kumar Chittoria. Cyclic Negative Pressure Wound Therapy: A Review. Indian J Anat.2022;11(13):87-90.
2. Glass GE, Nanchahal J. The methodology of negative pressure wound therapy: separating fact from fiction. J PlastReconstrAesthet Surg. (2012) 65:989– 1001.
3. Argenta LC, Morykwas MJ. Vacuum-assisted closure: a new method for wound control and treatment: clinical experience. Ann PlastSurg 1997;38:563–76 discussion 577.
4. Morykwas MJ, Argenta LC, Shelton-Brown EI, McGuirt W. Vacuum-assisted closure: a new method for wound control and treatment: animal studies and basic foundation. Ann PlastSurg 1997;38:553–62.
5. Borgquist O, Ingemansson R, Malmsjö M. Individualizing the use of negative pressure wound therapy for optimal wound healing: a focused review of the literature. Ostomy Wound Manage. (2011) 57:44–54.

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Original Article

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Role of Pentoxifylline in Preventing Keystone Flap Necrosis

Jacob Antony Chakiath[1], Ravi Kumar Chittoria[2]

How to cite this article:

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Abstract

Flaps are important in covering defects caused by trauma, tumour excision, lower limb vascular ulcer, or diabetes mellitus. Distal flap necrosis is one of the most common postoperative complications for flaps, leading to increased morbidity, prolonged hospital stay and need for repeat surgery. Pentoxifylline (PTXF) is a vasoactive agent that improves the flow of blood by reducing its viscosity. In our patient, we studied the usefulness of pentoxifyllineas an adjuvant to prevent flap necrosis.

Keywords: Pentoxifylline, Flap necrosis, Flap, Keystone flap.

INTRODUCTION

Flaps are important in covering defects caused by trauma, tumour excision, lower limb vascular ulcer, or diabetes mellitus.[1-3] Distal flap necrosis is one of the most common postoperative complications for flaps, leading to increased morbidity, prolonged hospital stay and need for repeat surgery.[4,5] The main mechanisms of flap necrosis are insufficient blood perfusion, venous return disorder, and ischemia reperfusion injury. It is of utmost importance to improve local neovascularization and increase the blood supply to ischemic tissues to prevent flaps from getting necrosed.[6] Angiogenesis in skin flaps is an intricate process involving the co-ordination of various cells and cytokines.[7] Various strategies have been developed recently to prevent flap necrosis, including reduction of oxidative stress,[8] inhibition of apoptosis,[9] and vasodilators.[10]

Pentoxifylline (PTXF) is a vasoactive agent that improves the flow of blood by reducing its viscosity.

MATERIALS AND METHODS

This study was conducted in a tertiary care hospital after obtaining approval from department scientific and ethical committee. This is a prospective, descriptive, observational case study. Informed consent was obtained from the patient. This case report is about a 45 year old

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male who sustained electrical burn injury by 220 volts alternating current to the vertex region of the scalp (entry zone) and the left leg (exit zone). The patient was disoriented and unconscious at the time of admission with a Glasgow score of 12 and was intubated. Multiple second degree superficial burns were present over the face, neck, chest and anterior aspect of abdomen, bilateral arms, bilateral thighs and second degree deep burns involving frontoparietal region of scalp at the vertex (Fig. 1). CT skull showed small ill-defined hypodense area with loss of grey white differentiation noted in the left frontal region suggestive of left frontal infarct. He was resuscitated with the standard WHO burn protocol. Serum electrolytes, urea and creatinine, urine analysis, and electrocardiogram were normal, urine myoglobin negative. Patient was asymptomatic with no seizures, syncope, focal neurological deficits. He was managed conservatively with prophylactic antiepileptic Phenytoin. The patient was extubated after three days of intensive care. According to the manual muscle test, both upper and lower extremities were normal. Sensory function was intact, muscle stretch reflexes were normoactive, no pathological reflexes were identified, and all the other cranial nerve and cerebellar functions were normal. Debridement of scalp wound was done after demarcation of necrotic patch. Non-viable necrotic tissue was debrided without damaging the normal tissues in both horizontal and vertical planes with dermabrader. After debridement, regenerative therapies like biological human amniotic membrane, collagen scaffold dressing, Low level laser therapy, Negative pressure wound therapy was done to enhance granulation over the scalp bone and wound bed preparation was done. Once the wound bed showed healthy granulation, perforator based type 4 keystone flap was done. Pentoxifylline was given orally twice daily for five days to prevent flap necrosis.

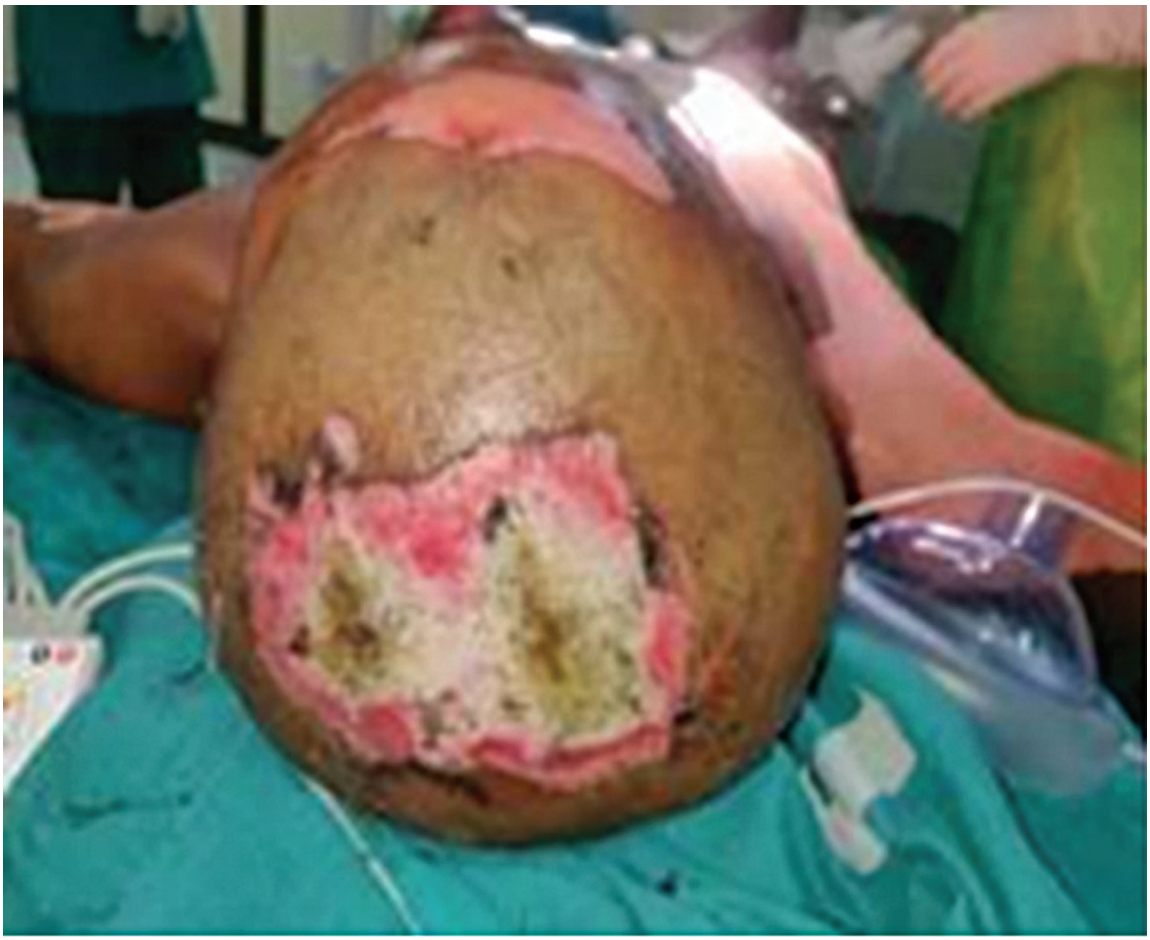

Fig. 1: Scalp electrical burn wound at presentation

RESULTS

In our patient, pentoxifylline was found to be useful to prevent flap necrosis.(Fig. 2)

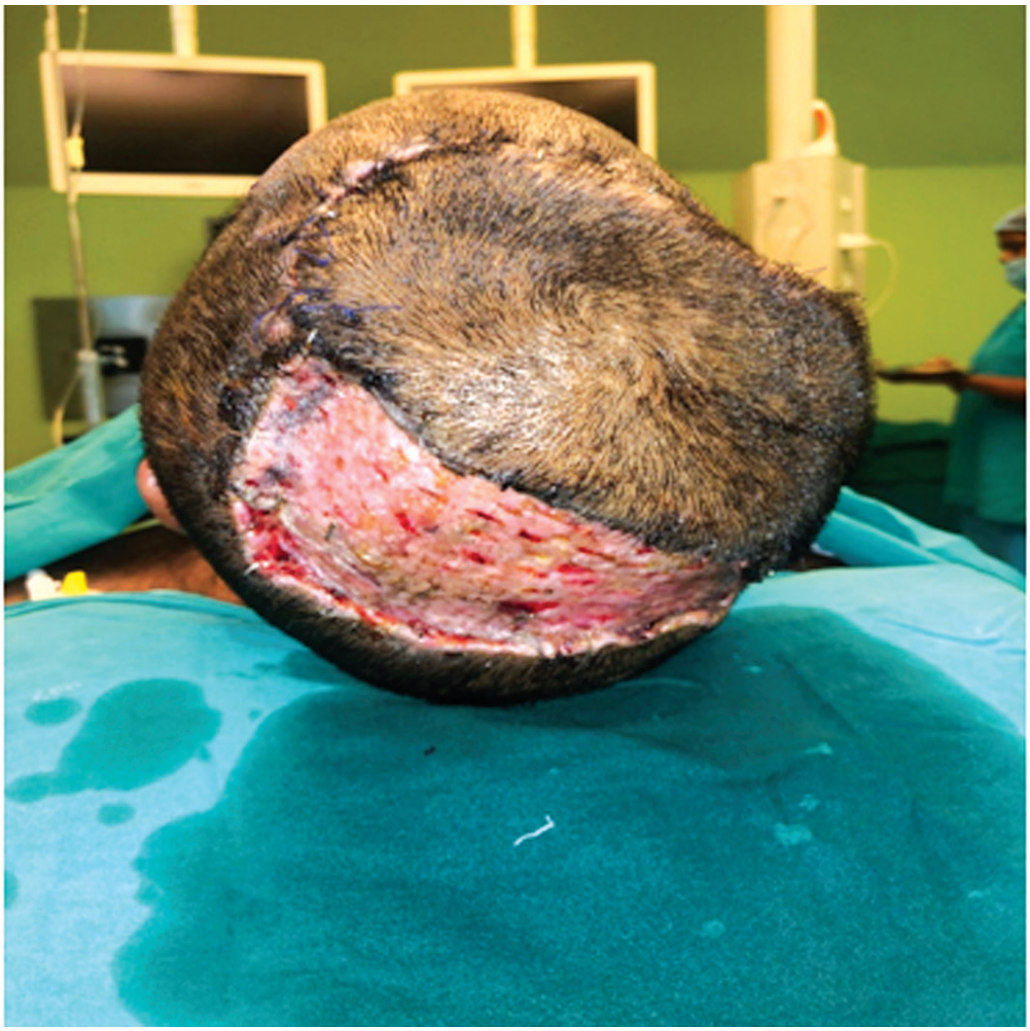

Fig. 4: Flap taken well with no necrosis

DISCUSSION

Pentoxifylline (PTXF) is a vasoactive agent that improves the flow of blood by reducing its viscosity. It is FDA approved for the symptomatic treatment of claudication. The other off label indications are venous ulcers, severe alcoholic hepatitis, given prophylactically to prevent flap necrosis. Pentoxifylline and its metabolites decrease blood viscosity and improve blood flow and peripheral tissue oxygenation. The precise mechanism of action by which it leads to symptom improvement remains yet to be determined. However, several pathways are likely involved.

- Pentoxifylline increases red blood cell flexibility by increasing erythrocyte ATP and cyclic nucleotide levels.[11] It reduces the viscosity of blood by decreasing erythrocyte aggregation and stimulating fibrinolysis to reduce plasma fibrinogen concentrations.[12] All these effects enhance the ability of blood to flow through peripheral vessels (hemorheological action).
- Pentoxifylline is a phosphodiesterase (PDE) inhibitor. By blocking the membrane-bound phosphodiesterase, it increases the concentration of cyclic AMP. It also inhibits thromboxane synthesis and increases prostacyclin synthesis. These actions result in reduced platelet aggregation. Further, pentoxifylline has demonstrated decreased adhesion of platelets to the vessel wall in patients with circulatory disorders.
- Pentoxifylline exerts vasodilation in the

skeletal muscle vascular bed by inhibiting PDE and increasing the cAMP.[13]

- Pentoxifylline inhibits the leukocyte derived free radicals generated during peripheral ischemia in patients with peripheral vascular disease. It has been shown to reduce the impairment of the filterability rate of unfractionated leucocytes, limiting ischemia related tissue damage.[14]
- Pentoxifylline has immunomodulatory effects. The drug improves leukocyte deformability and chemotaxis. It depresses neutrophil degranulation, decreases endothelial leukocyte adhesion, and lowers the sensitivity of leukocytes to cytokines. Besides, pentoxifylline can inhibit the production of inflammatory cytokines.[7]

The keystone flap is made up of two V-Y advancement flaps that face each other. The migration of these advancement flaps results in the availability of additional tissue adjacent to the defect, allowing for main skin edge approximation. Younger surgeons can simply replicate this method because it is straightforward. In order to follow the chosen nourishing vessels for a short tract into the muscle belly or into the septa, microsurgical expertise is frequently required during the vasculature dissection phase of loco regional flaps, which should be performed under loupe magnification. There is also aesthetic morbidity in the donor area of loco regional flaps due to skin grafts. In loco regional flaps, preoperative Doppler flow is frequently used to locate perforator arteries in the anatomical area. The location of the perforating vessels is operator dependent, time demanding, and not always exact. Donor site morbidity is low with the keystone flap. Only one of our instances required a little skin graft. The donor locations were mostly closed in the remaining cases.[15,16]

Types of Keystone Island Flaps

Type I: Standard flap design with no deep fascia segmentation.

Type II: The convex side of the flap's deep fascia is separated to improve mobilisation. The secondary defect is closed predominantly in Type II a, and the secondary defect is closed with a splint skin graft in Type II b.

Type III: Two keystone flaps, one on each side of the defect, are designed to aid closure.

Type IV: The flap is undermined up to two-thirds of the way. The mobilisation of the flaps is maximised.

In regions where skin expansibility is limited, such as around the knee, ankle, elbow, plantar aspect of foot, and palmar aspect of hand, the keystone flap should be used with caution. We had to raise the distal end of the flap to cover a defect below the knee in our patients since there was less skin laxity.[4] We incised the flap's edges through deep fascia on a regular basis. This will make it easier for the flap to move around and fill the defect. The flap's mobility is equivalent to that of a tree top, and it's only achievable after cutting the deep fascia all the way around the flap's convex border. In situations where the deep fascia was not incised, we saw shearing of the flap and increased strain in the suture line. We did not incise the skin over the central part of the convex surface of the flap to retain more vascularity in the flap when closing smaller defects and in the presence of sufficient laxity, but we did incise the deep fascia underneath the skin to retain more vascularity in the flap when closing smaller defects and in the presence of sufficient laxity. Splints were worn for 3-4 days to aid soft-tissue healing in the upper and lower limbs. In cases when skin grafting has been performed, physiotherapy will be required.[5] In none of the patients was long-term splinting used. As a result, bilateral limb surgeries can be completed in one session. Traditional skin grafts, whether with or without a local flap, result in substantial scarring, post-operative immobility, prolonged physiotherapy, graft pressure therapy, and other complications. We operated on an instance of a raw region over the knee joint on the right side of the knee. Four days following surgery, the patient was advised to move his lower limb. Within 9 days, the wound was completely healed.

However, unlike a free flap, key stone flaps have minor limitations such as lengthy scars beyond the defect's bounds and a limited arc of rotation. It's critical to make sure the keystone flap's blood supply hasn't been harmed by either cancer ablation surgery or radiation therapy.[17] Despite these drawbacks, keystone flaps provide primary wound healing for a wide range of abnormalities with minimum pain, a sensitive cover, and great cosmetic results. It's been utilised to treat malformations in the head and neck, as well as parotid and trunk deformities. This method can eliminate the requirement for microsurgical flaps. When compared to perforator flaps and microvascular free flaps, the keystone flap has a shorter learning curve. This flap could be a valuable tool in the hands of a plastic surgeon.

CONCLUSION

Pentoxifylline (PTXF), a vasoactive agent a useful adjuvant to improves the flow of blood and prevent flap necrosis.

REFERENCES

1. Basu G, Downey H, Guo S, et al. Prevention of distal flap necrosis in a rat random skin flap model by gene electro transfer delivering VEGF(165) plasmid. J Gene Medicine. 2014; 16:55–65.
2. Zeltzer AA, Van Landuyt K. Reconstruction of a massive lower limb softtissue defect by giant free DIEAP flap. J Plastic Reconstructive Aesthetic Surg. 2012;65(2):e42–5.
3. Qing L, Wu P, Yu F, Zhou Z, Tang J. Use of dual-skin paddle anterolateral thigh perforator flaps in the reconstruction of complex defect of the foot and ankle. J Plastic Reconstructive Aesthetic Surg. 2018;71(9):1231–8.
4. Myers MB, Cherry G. Causes of necrosis in pedicle flaps. PlastReconstr Surg. 1968;42(1):43–50.
5. Lin R, Lin J, Li S, et al. Effects of the traditional Chinese medicine baicalein on the viability of random pattern skin flaps in rats. Drug Des DevelTher. 2018;12: 2267–76.
6. Van den Heuvel MG, Buurman WA, Bast A, van der Hulst RR. Review: ischaemia-reperfusion injury in flap surgery. J Plastic Reconstructive Aesthetic Surg. 2009;62(6):721–6.
7. Sheng L, Yang M, Li H, Du Z, Yang Y, Li Q. Transplantation of adipose stromal cells promotes neovascularization of random skin flaps. Tohoku J Exp Med. 2011;224(3):229–34.
8. Silva JJ, Pompeu DG, Ximenes NC, et al. Effects of Kaurenoic acid and arginine on random skin flap oxidative stress, inflammation, and cytokines in rats. AesthetPlast Surg. 2015;39(6):971.
9. Deheng C, Kailiang Z, Weidong W, et al. Salidroside promotes random skin flap survival in rats by enhancing angiogenesis and inhibiting apoptosis. J ReconstrMicrosurg. 2016;32(8):580–6.
10. Aral M, Tuncer S, Şencan A, Elmas Ç, Ayhan S. The effect of thrombolytic, anticoagulant, and vasodilator agents on the survival of random pattern skin flap. J ReconstrMicrosurg. 2015;31(7):487–92.
11. 6.Ward A, Clissold SP. Pentoxifylline. A review of its pharmacodynamic and pharmacokinetic properties, and its therapeutic efficacy. Drugs. 1987 Jul;34(1):50-97.
12. 7.Zhang M, Xu YJ, Mengi SA, Arneja AS, Dhalla NS. Therapeutic potentials of pentoxifylline for treatment of cardiovascular diseases. ExpClinCardiol. 2004 Summer;9(2):103-11.
13. 8.Kamphuis J, Smits P, Thien T. Vascular effects of pentoxifylline in humans. J CardiovascPharmacol. 1994 Oct;24(4):648-54.
14. 9.Ciuffetti G, Mercuri M, Ott C, Lombardini R, Paltriccia R, Lupattelli G, Santambrogio L, Mannarino E. Use of pentoxifylline as an inhibitor of free radical generation in peripheral vascular disease. Results of a double-blind placebo-controlled study. Eur J ClinPharmacol. 1991;41(6):511-5.
15. P Pelissier, H Gardet, V Pinsolle, M Santoul, FC Behan. The keystone design perforator island flap. Part II: clinical applications. J PlastReconstrAesthet Surg. 2007;60(8):888–91.
16. M Pignatti, M Pasqualini, M Governa, M Bruti, G Rigotti. Propeller flaps for leg reconstruction. J PlastReconstrAesthet Surg. 2008;61(1):777–83.
17. FC Behan, CH Lo, A Sizeland, T Pham, M Findlay. Keystone Island Flap Reconstruction of Parotid Defects. PlastReconstr Surg. 2012;130(1):36e–41e.

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Standard journal article

[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006; 35: 540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, *et al.* Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003; 61: 347-55.

Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997; 195 Suppl 2: 3-9.

Corporate (collective) author

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000; 71: 1792-801.

Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

Chapter in book

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O,

Kidd EAM, editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

No author given

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

Reference from electronic media

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

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