STUDENTS' CORNER
LETTER TO THE EDITOR

Hypochlorous acid-the future of wound care?

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Dear Editor, Wounds, especially chronic wounds and associated infections, impose a substantial burden on individuals and healthcare systems, leading to escalated morbidity rates and a significant risk in healthcare costs. Chronic wounds create ideal conditions for infection and the formation of biofilms, making it essential to implement comprehensive wound care techniques to promote wound healing.[1]

Antiseptics are substances that impede or eradicate pathogens found within wounds or on the skin. Iodine-based agents such as povidone-iodine (PVP-I) have been used to treat wounds for decades. PVP-I is widely used and accepted due to its broad activity spectrum against gram-positive and negative bacteria, no development of cross-resistance upon use and its ability to penetrate biofilms. While being widely utilized worldwide, certain concerns have been raised regarding hypersensitivity, inadequate penetration, and potential cytotoxicity on host cells associated with its use. Reports have emerged documenting instances of both immediate and delayed allergic reactions to PVP-I. There have also been reports of iodine toxicity in patients when PVP-I was used as a constant wound irrigant.[2]

Hypochlorous acid (HOCl) is a potent antimicrobial compound naturally synthesized by the immune system. It exhibits remarkable efficacy against a wide range of bacterial, viral, and fungal pathogens, effectively neutralizing their presence. A study conducted by Sakarya et al. concluded that stabilized HOCl solution is minimally allergenic as it's produced naturally in the body and is also an ideal wound care solution.[3]

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A few comparative studies have been conducted between HOCl and PVP-I. In very recent research, it was concluded that in neonatal circumcision, the group of patients that used PVP-I had a greater occurrence of oedema and delayed wound healing as compared to patients that used HOCl.[4] Moreover, PVP-I has been demonstrated to be cytotoxic to cellular components of wound healing while HOCl controls bacterial spread without disrupting the wound healing process as it is non-cytotoxic to cells at concentrations that achieve antimicrobial action. The amount of exudate also decreases when Hypochlorous acid is used instead of Povidone iodine.[5]

To sum it up, Physicians and nurses face a formidable hurdle in identifying a topical antiseptic agent that is both safe and efficacious. PVP-I is being widely used as an antiseptic agent for wound healing but patients do experience some side effects. Research suggests that hypochlorous acid is also an effective option to treat lesions with less adverse effects, although more research should be conducted to reach absolute conclusive results.

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