

Case Report

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Accelerated Immediate Results in the Treatment of an Extensive Facial Burn in an Infant Using a Medical Device II: Carbohydrate Polymer with Zinc Oxide (C.P.Z.O.) - Case Report

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ABSTRACT

Burn injuries in children are common and can be life-threatening in complicated cases; however, there is a lack of published literature addressing these accidents in detail. This study demonstrated that the use of a Type II medical device with wound healing properties—a carbohydrate polymer with zinc oxide—was effective in the recovery of extensive facial burns of grades 2 and 3.

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Case Report

An 18-month-old male patient sustained extensive second and third-degree facial burns when his mother accidentally spilled boiling soup over his face while cooking (Figure 1). Both parents immediately rinsed the affected area with water and soap, covered his face with a clean towel, and rushed with him to the Emergency Room of the I.S.S.S.T.E. Hospital.



Figure 1: Initial Presentation of Extensive Second and Third-Degree Facial Burns in the Left Hemifacial Region



Figure 2.1

Figure 2.2

Appearance of the facial burns after treatment with C.P.Z.O. in the Emergency Room. Upon arrival, a nurse contacted our medical team via long-distance call to inquire whether C.P.Z.O. should be used in this critical case (Figure 1). She was instructed to perform extensive irrigation of the affected area with saline, followed by the generous application of C.P.Z.O. over the entire facial region (Figures 2.1 and 2.2). Three minutes after the gel application, a petrolatum dressing was applied. The child ceased crying shortly after the treatment and was discharged for at-home care. His parents brought him for follow-up and continued treatment every two days (Figure 3).



Figure 3: Facial Appearance After Two Days of Treatment. The Child Exhibited no Pain, Ate as Usual, and had an Undisturbed Sleep Pattern

Complete recovery was observed after 17 days of treatment (Figures 4 and 5).



Figure 4: Left Side of the Face after Six Days of Treatment with C.P.Z.O.



Figure 5: Facial Appearance after Seventeen Days of Treatment (Six Applications in Total). No Scars or Deformities were Observed. The Therapy required Two Jars of C.P.Z.O.

Discussion

Auh reported that the most common etiologic mechanism of facial burns in children includes thermal burns (20%) and scald injuries (15.1%) [1]. Their study, which analyzed emergency room reports in the U.S.A. over 19 years, documented a significant decline in cases until 2018 (6,525 cases reported), after which the incidence remained constant. While thermal and radiation burns significantly decreased, scald burns persisted, emphasizing the need for preventive strategies [2,3].

Severe facial burns hold significant clinical importance, often leading to long-term morbidity and, in cases involving the upper airway, potential functional and cosmetic complications. The Stanford Medicine Children's Health Bulletin highlights that non-intentional burns remain a leading cause of pediatric mortality. Additionally, the intense pain associated with burns has a profound emotional impact, making early pain control crucial. Proper emergency care plays a pivotal role in ensuring optimal treatment outcomes [1].

Pediatric burn patients should ideally be evaluated and treated by specialists. Initial management should include thoroughly irrigating the affected area with cold saline and removing clothing near the burn site when possible [1].

A noteworthy aspect of this case was the nurse's familiarity with C.P.Z.O. She had attended a presentation on the product just one week prior at another I.S.S.S.T.E. Hospital. During that session, multiple nurses engaged in discussions about lesion-cleansing techniques, dressing application, and treatment frequency. This prior exposure undoubtedly contributed to her confidence and proficiency in administering the treatment effectively.

C.P.Z.O. has been successfully used in other types of external lesions, such as Diabetic Ulcers, Chronic leg ulcers, and traumatic wounds, with excellent outcomes. To date, no adverse effects have been reported [4-8].

Conclusion

Facial burns in children represent a serious medical concern and should be managed by specialized personnel whenever possible. The initial emergency room treatment is critical, and specialized hospital care should be sought to prevent severe complications and ensure appropriate therapeutic interventions.

Medical Device II, C.P.Z.O., demonstrated potent anti-inflammatory and antimicrobial properties in this case. Given its efficacy and safety profile, it should be considered for similar pediatric burn cases, as it has no known contraindications.

Authors' Contribution

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