E-Poster

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When Orthotic Devices Become a Threat: Severe Heel Pressure Ulcers in a Child with Cerebral Palsy

Topic: Complications/Sequelae (ie Spasticity, Immobilization and Frailty)

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BACKGROUND

In children with cerebral palsy (CP), the use of knee-ankle-foot orthoses (KAFO) is a common therapeutic approach to prevent musculoskeletal deformities and optimize motor function. However, improper design, poor fit, or inadequate monitoring can lead to severe cutaneous complications, including heel pressure ulcers.

CASE DESCRIPTION

We report the case of a four-year-old child with spastic quadriplegia secondary to CP, presenting with predominant triceps surae spasticity. The child was undergoing regular motor rehabilitation, botulinum toxin injections, and nocturnal KAFO use. The patient presented with painful heel skin lesions evolving over a week. Clinical examination revealed Stage 3 pressure ulcers on both calcanei, with exposure of subcutaneous tissues. The orthotic evaluation showed a poor fit and excessive rigidity, leading to prolonged mechanical stress on pressure areas. The management included the immediate discontinuation of KAFO use, local wound care with appropriate dressings, strict offloading using anti-shock heel protectors, and a referral to plastic surgery for specialized care.

DISCUSSION

Pressure ulcers are a frequent but often underestimated complication in children with CP, especially when using ill-fitting orthotic devices. Studies have reported a significant prevalence of pressure ulcers in this population. While orthoses play a crucial role in preventing musculoskeletal deformities and improving motor function, improper design and inadequate monitoring can generate excessive pressure on weight-bearing areas, increasing the risk of skin breakdown. A rigorous biomechanical evaluation and regular follow-up are essential to optimize orthotic efficacy while preventing complications. Prevention strategies involve a multidisciplinary approach, including close clinical monitoring, caregiver education, and customized orthotic adjustments tailored to the patient's specific anatomical needs. In cases where pressure ulcers develop, management should focus on the immediate discontinuation of the causative device, appropriate wound care, and an optimized offloading strategy. In severe cases, surgical intervention may be required to prevent further complications and preserve functional integrity.

CONCLUSION

Orthotic-related pressure ulcers are preventable through optimal design, fitting, and monitoring. Caregiver education and regular follow-up are crucial to balancing the functional benefits of orthotic devices with the prevention of cutaneous complications, ensuring comprehensive and effective patient management.

Statement of Disclosures

None

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