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Abstract

Reconstruction of Zygomatic-Orbital Fracture in Pediatric Patients Victim of Physical Aggression by a Large-Caliber Firearm Projectile

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Abstract

Background and Aim: Facial trauma, characterized by its emotional impact and potential for deformity, presents significant challenges in trauma centers. When it occurs in children, it becomes even more critical, as it can disrupt facial growth and development centers, leading to long-term

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functional defects in adulthood, such as hypoplasias, atrophies, and facial disharmonies. Effective management of such emergencies requires precise diagnosis, classification, and treatment due to the unique sensitivity of the facial region. This study aims to report a case involving a pediatric patient who suffered a domestic firearm accident resulting in permanent vision loss due to a right zygomatic-orbital injury.

Method: A 7-year-old female patient, accompanied by her mother, presented to a Recife-Pernambuco-Brazil emergency hospital following a domestic accident involving the accidental discharge of a hunting gun between two children.

Results: Clinical examination revealed a perforated-blunt wound in the infected right zygomatic region, along with characteristic signs of bilateral amaurosis, ecchymosis, and bilateral periorbital edema. Imaging examinations identified multiple firearm projectile fragments in the posterior region of the left orbital cavity, as well as a right zygomatic-orbital fracture affecting the lateral wall and orbital floor, resulting in midface destruction. Under general anesthesia, the patient underwent procedures to remove foreign bodies, excise devitalized tissues, and perform local cleaning to minimize the risk of infection and tissue necrosis. The postoperative period progressed without complications, and the patient received bilateral ocular prostheses, restoring aesthetic and facial symmetry.

Conclusion: Comprehending the etiology, severity, and temporal aspects of facial trauma is crucial for effective treatment. Facial trauma holds public health significance due to its profound impact on the individual's quality of life.

Keywords: *Zygomatic-orbital, Caliber firearm projectile, Facial trauma, Facial skeleton*