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Tactics of pediatric panfacial trauma treatment

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Aim: The aim of the study was to optimize management of pediatric patients with panfacial trauma.

Methods: 262 patients with polytrauma (ISS \geq 16) went through the ICU within three years. Craniomaxillofacial trauma was diagnosed in 29.6 \pm 1.77% of patients, of which 14% had fractures of all three zones of the facial skeleton. A whole body CT is performed to all children with polytrauma on admission during antishock actions. Surgical approach is based on interaction of damage control and fast track conceptions with taking into account patient's stability.

Results: Emergency craniomaxillofacial surgeries were done in 86.9% of cases: percutaneous tracheostomy (34.8%), maxilla-mandibular fixation (21.7%), nasal packing (8.7%), facial wound suturing (13%), teeth replantation. Reconstruction of facial skeleton is done up to 72 hours after trauma after stabilization of patient's condition and making urgent operations for health reasons. Surgeries were performed in 56.5% of children. One-stage operation was done in 61.5%, two-stage – in 38.5% of children, due to severity of polytrauma. For fracture fixation, we use titanium miniplates. If having bone defects we use bone autografts or titanium implants. If necessary we perform stereolithography, neuronavigation and endoscopic assistance (48.9%). CT control was performed on 1 postop day. AVL is shown during 1-2 days. Decannulation is performed after 2-3 weeks using tracheobronchoscopic control. Postoperative complications were diagnosed in 7.7% of cases, posttraumatic deformities – in 23.1%. After discharge all patients are on the follow-up for 5 years. Children under 12 years of age are re-hospitalized for plates removal (30.8%).

Conclusion: Children with panfacial trauma are a very severe group of patients. Multiple craniomaxillofacial injuries should be treated in a specialized emergency trauma hospital, what permits to diagnose in detail the pattern of facial trauma and combined injuries. Together with multidisciplinary team, high-technology equipment and presence of miniplates, it provides early one-stage facial skeleton reconstruction.

Biography

Anna V Timofeeva is a Researcher and a Pediatric Surgeon at the Department of Polytrauma and ICU in Clinical and Research Institute of Emergency Pediatric Surgery and Trauma since 2010. She worked as a Laboratory Assistant at the Department of History of Medicine, National History and Culturology of I M Sechenov First Moscow State Medical University from 2001 till 2002. She obtained a resident specialty in Maxillofacial Surgery in Central Research Institute of Dental and Maxillofacial Surgery from 2011 till 2013. She is a Craniomaxillofacial Surgeon in Clinical and Research Institute of Emergency Pediatric Surgery and Trauma from 2011 till 2013.

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