

# On the Negative Outcomes of Craniofacial Surgery



The craniofacial surgery is an emerging superspecialty that requires intervention from several aspects – maxillofacial, neurological, otorhinolaryngology, and ophthalmic specialties. Craniofacial region is very unique. It has very complex regional anatomy that involves a lot of vital structures, proximity to brain, concern of esthetics, and function of three sense organs – taste, vision, and hearing as also speech. Surgical exploration in this areas permit often has no place for errors.<sup>[1]</sup>

In adequate knowledge, surgical skill, dexterity, lack of experience, and proper instrumentation can lead to negative outcome to patient. Hence, the team requires to be well experienced, coordinated, and trained to handle emergency with ease. Despite the better quality of life that craniofacial surgery provides, the risk of negative outcomes cannot be largely ignored. The incidence of such negative outcomes has been reduced with better instruments, protocols, investigations, anesthesia, and better cumulative surgical experience. It is reported that the craniofacial surgery in India has turned to be quite safe with very low morbidity and mortality. In spite of the low morbidity, mishaps and negative outcomes do often occur. They are classified into four types depending on the severity 1–4.<sup>[1,2]</sup>

They are:

- Type 1: Minor events that can be amended without any damaging effects on the outcome of the patient. They include minor wound infections, poorly placed scars, scar alopecia, convulsions, minor cerebrospinal fluid leaks, and seromas/hematomas
- Type 2: Moderate-to-severe events that compromise the results and might need another surgical intervention for a successful outcome. They include exposure keratitis, diplopia, contour deformities, warping, non/malunion, and exposed hardware
- Type 3: Serious events with unfavorable result which can or cannot be successfully managed. They include nerve

palsies and infection leading to bone loss and partial loss of vision

- Type 4: Serious events that may even lead to death. They include fulminant postoperative infection, perioperative bleeding, respiratory compromise, or other serious anesthesia-related events.

Besides these, there are traditional anesthesia-related complications that need to be considered. The perioperative-related access to airway compromising oxygen saturation, difficult airway, excessive blood loss, circum-surgical hyponatremia and electrolyte imbalance, venous air embolism, and oculocardiac reflex besides other intraoperative complications of any long duration surgery needs to be considered.

The other minor issues that are related to incision are scar alopecia, dissection along improper planes-frontal branch, eyelid retraction, flaring of nostrils, temporal hollowness, traction and tension of closures, those related to bony osteotomies (unequal cuts/greenstick fractures/defects/bur hole contour/sliding bone flaps), and palatal fistula may complicate the outcome of the surgery. Inappropriate and/or excessive forces may cause dural tears or hematoma in risky areas. In surgeries that involve the orbit and eye, vision loss, intraocular pressure, infection, neurological deficit, and in rare cases death could also happen.<sup>[1]</sup>

With India emerging as a favorite destination for craniofacial surgery, proper protocols and guidelines need to be evolved to protect the patient and as well as a medical team from complex aftermath of negative outcomes during craniofacial surgery. The operating lead surgeon and other members of the team need to trained to identify and react as per standard protocol to save the patient in the golden hour of crisis.

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