

原文題目(出處)：	Supraorbital Blowin Fracture Presenting as an Ocular Dystopia in a Nine-Year-Old Girl Hindawi Publishing Corporation Case Reports in Dentistry Volume 2013, Article ID 574146
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報告日期：	102/9/10

內文：

### **Introduction**

- ✓ Fractures of the supraorbital region are rare and are frequently associated with high-energy craniomaxillofacial trauma
- ✓ When displacement of the orbital roof occurs, exploration and precise reconstruction are warranted to limit such ocular complications as exophthalmos, enophthalmos, proptosis, dystopia (ocular and orbital), diplopia, restricted ocular movement, altered vision, pain, and discomfort
- ✓ 1% to 9% of facial fractures can involve the supraorbital rims and the anterior table of the frontal sinus, and many supraorbital rim fractures are associated with other forms of craniomaxillofacial injury
- ✓ Many of these patients have multisystem injuries, most of which are neurologic
- ✓ If they are seen soon after the traumatic episode, then a cosmetic deformity consisting of depression or flattening of the supraorbital ridge can be visualized
- ✓ Later, these injuries may present with intensely turgid periorbital ecchymosis, edema, soft tissue lacerations, and paresthesia over the area of distribution of the supraorbital

and supratrochlear nerves

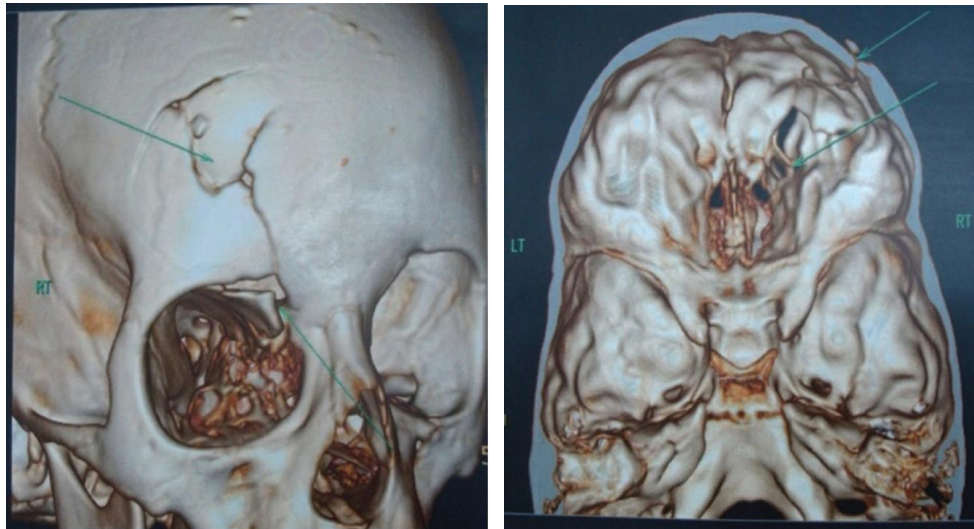
- ✓ If the fracture is displaced, dystopia (ocular and orbital), enophthalmos, exophthalmos, and proptosis may be noted, along with diplopia
- ✓ A nondisplaced supraorbital rim fracture generally requires no surgical intervention
- ✓ An orbital roof fracture, with undisplaced supraorbital rim involvement and no frontal sinus fracture, is common in children
- ✓ A computed tomography (CT) scan can rule out damage to the posterior table of the frontal sinus

### Case Report

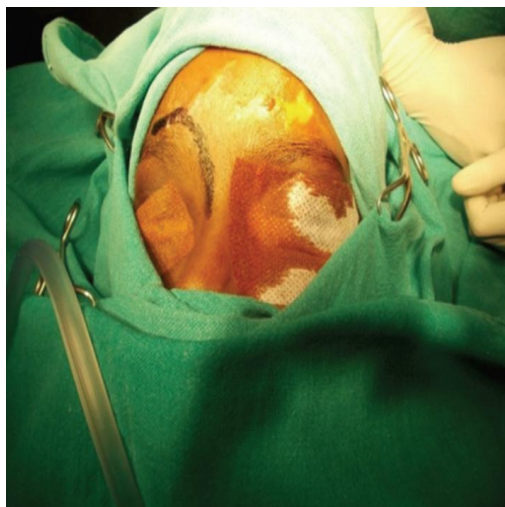
- ✓ Subconjunctival hemorrhage, circumorbital ecchymosis, and horizontal ocular dystopia involving the right eye were observed



- ✓ 3D CT scan revealed depressed fracture involving the frontal bone on the right side, right parietal bone, right superior orbital margin, right lamina papyracea, right maxillary, bilateral ethmoid, sphenoid sinusitis/hemosinus, and small posttraumatic encephalocele at anterior skull base from cribriformplate.



- ✓ supraorbital rim(medial 1/3) was pushing the globe from medial to lateral direction, and there was a step deformity on the right frontal aspect
- ✓ Open reduction and internal fixation of supraorbital margin were planned under GA with nasal intubation. Supraorbital rim was approached through the existing scar with extension to the glabella region



- ✓ It was noticed that a part of brain tissue was herniating between the two fracture segments; so an attempt was made to push the brain tissue, and the two fracture segments were reduced manually
- ✓ A T-shaped titanium plate was bent according to contour of supraorbital roof and supraorbital ridge; horizontal bar of the plate was fixed on the supraorbital margin with 1.5mm screws, and vertical bar was fixed to the roof with one 1.5mm screw. Layerwise closure was done (3–0 vicryl for submucosal and 5–0 prolene for skin)
- ✓ Postoperative 3D CT scan was advised to confirm the reduction



- ✓ After one month postoperatively the patient was reviewed. Upon examination, it was found that the healing and the ocular dystopia were corrected satisfactorily



### Discussion

- ✓ The common mechanism of injury for a superior orbital fracture is high-energy, blunt trauma to the orbit or forehead
- ✓ The isolated orbital roof “blowup” fracture, also known as “blowout” fracture, is defined as superior displacement of the fracture fragment into the anterior cranial fossa without

involvement of the supraorbital rim, with possible herniation of orbital contents outside of the orbital confines

- ✓ The isolated “blowin” fracture is defined as inferior displacement of the roof without involvement of the supraorbital rim or the frontal sinus and is thought to be the result of increased intracranial pressure, a shift of the cranium, and/or a shift of the intracranial contents
- ✓ The blowin fracture effectively reduces the volume of the orbit and can cause associated intraorbital injuries including extraocular muscle entrapment and optic nerve injury
- ✓ Although the terms “blowin” and “blowup” fractures refer to isolated injuries of the internal superior orbit, these injuries occur far more commonly in conjunction with supraorbital rim and frontal sinus involvement
- ✓ Very rarely, the orbital roof will fracture without displacement of fractures fragments, resulting in the nondisplaced orbital roof fracture

**Treatment**

- ✓ pediatric orbital roof fractures are less likely to require surgical repair than their adult counterpart
- ✓ surgical intervention is utilized only to repair displaced and comminuted fractures that will likely cause functional disability, cosmetic deformity, or both
- ✓ Pure “blowin” fractures, “blowout” fractures, and nondisplaced fractures that are asymptomatic generally have minimal clinical consequences and can be managed conservatively without surgery
- ✓ Fractures that extend beyond the orbital roof can generally be treated conservatively with diligent clinical and CT followup

題號	題目
1	下列敘述何者錯誤 (A) 顏面骨骨折應立即以手術方式治療 (B) 以手術治療骨折時，最重要的是將斷裂部分做適當復位 (C) 固定顎骨時，要先將咬合恢復到病人原來的咬合 (D) 一般從最容易固定的區域開始固定
答案 (A)	出處：Contemporary Oral and Maxillofacial Surgery, p502
題號	題目
2	單純用 IMF 來治療骨折，稱之為閉合式復衛術(closed reduction), 是成人 IMF 固定的時間最長為多久 (A) 五天到七天 (B) 七天到九天 (C) 二到三週 (D) 四到五週

答案 (B)	出處：出處：Contemporary Oral and Maxillofacial Surgery, p504
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