

erythromatosus were all negative. Nerve conduction studies showed increased latency & decreased amplitudes suggestive of predominantly acute inflammatory demyelinating polyneuropathy. Keeping in the view the history & clinical symptomatology of the patient, the diagnosis of herpes zoster leading to severe polyneuropathy in the form of Gullian-Barre Syndrome was made. The patient was put on oral acyclovir 800mg 5 times daily for 7 days & showed marked improvement in the power in case of upper limbs & lower limbs with significant improvement in the speech & language. The patient was discharged after 7 days in a stable condition & is on regular follow up.

DISCUSSION

Our case showed the classical clinical features of GBS namely weakness, parasthesias & areflexia etc. GBS following herpes zoster typically has a latent period of two weeks to two months. Shorter latent periods as in our case, are associated with more severe illness². The pathogenesis of GBS following herpes zoster attack is poorly understood. It is generally considered that GBS results from autoimmune mediated damage to the peripheral nervous system triggered by a preceding infectious event⁴. Some authors here proposed that the pathogenesis by which GBS develop following herpes zoster attack is directly related to autoimmune mediated responses initiated by varicella zoster virus reactivation¹. Specific pathogens could structurally mimic the molecules from human peripheral nerves that induce cross-reacting anti-peripheral nerve myelin autoimmunity⁵. VZV can interfere with adaptive immunity & can become latent for longer periods, residing in the human nervous system⁶. Regarding the reactivation of VZV, it is proposed that it may be due to imbalance of CD₄ and or CD₈ lymphocytes in the blood during the course of herpes zoster occurrence⁷. Antiviral therapy has been proven to decrease new lesions & to prevent herpetic neuralgia in patients with acute herpes zoster⁸. The possibility that humoral factors are involved provides the rationale for the use of plasma exchange⁹. In GBS, there

is an identifiable precipitant in 10% of cases including mycoplasma, Epstein Barr virus or hepatitis A¹⁰. GBS following herpes zoster virus is rare, although few cases have been reported in Indian literature¹¹. The neurological complications of herpes zoster include sensory radiculopathy, transverse myelitis, GBS & encephalopathy¹². The very uncommon occurrence of GBS with herpes zoster suggests that most individuals with herpes zoster are somehow able to suppress an autoimmune reaction.

CONCLUSION

This case suggests that herpes zoster per se may sometimes be a sufficient stimulus to drive antibody generation & precipitate severe clinical symptomatology. The association of GBS with herpes zoster is rare. This prompted us to report this rare clinical entity.

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Case Report

Management of Lefort Fractures using External Skeletal Fixator : Two Case Reports.

P. Mehra, Ruchi Ahuja

Department of Dental & Oral Surgery, LHMC & Associated Hospitals, Delhi, India

Abstract: We are reporting two cases of complex maxillofacial injuries involving the midface along with mandible managed under local anaesthesia with External skeletal fixation using POP head frame to mandible and maxilla, respectively. The primary purpose of the paper is to describe this conventional technique as an effective, immediate and economical method for the quality treatment of such fractures managed under OPD settings. The benefits to the patient and the hospital are highlighted.

INTRODUCTION

Many techniques have evolved for treating midfacial fractures beginning with external skeletal fixation, internal K wire fixation, rubber band traction, direct internal wiring and suspension techniques to the modern era of rigid internal fixation¹.

External skeletal fixation is still advocated as a method of choice for complex maxillofacial injuries. The technique requires no complicated apparatus and minimum infrastructure for quick and efficient immobilization of the middle-third fracture and patients are mobile immediately after the operation.

CASE-1

A 35 year old male patient reported to Department of Dental and Oral Surgery, LHMC & Associated Hospitals, with a chief complaint of inability to chew food and generalized pain and swelling over face since two days. There was history of RTA two days back with history of LOC of approx 3 hours and bleeding from nose and mouth. After primary stabilization and neurosurgical clearance, at a local hospital, the patient was referred to our centre for the management of facial fractures. On examination, the general condition was fair with GCS =15. There was generalized swelling over face, with bilateral circumorbital ecchymosis and bilateral subconjunctival hemorrhage. Eye movements and vision

Correspondence: Dr. Ruchi Ahuja, Senior Resident, Dental & Oral Surgery Department, LHMC & Associated Hospitals, Delhi, India
M: 0-9811598165 e-mail: ruchiahuja_2002@yahoo.co.in



were normal. The pupillary reflex and reaction were also normal. Mouth opening was reduced to one finger. Tenderness was present along the nasal bridge, bilateral infraorbital margin, bilateral zygomatic buttress, right zygomatic arch and symphysis region mandible. Midpalatal split of maxilla was also observed. A provisional diagnosis of bilateral LeFort II with midpalatal split, right zygomatic arch and symphysis mandible fracture was made. CT scan head and face was done and diagnosis was confirmed. After PAC, ORIF for symphysis fracture mandible using Titanium plates and screws and External skeletal fixation using POP head cap with mandibular external pins was done under local anaesthesia in OPD setting. After 24 hrs, the patient was discharged. The IMF and apparatus was removed after 6 weeks in OPD without LA. The patient had normal occlusion. The pressure sores underneath the POP head cap and superior margin of pinna were managed conservatively with regular dressings. The patient was kept under regular follow-up.

CASE 2

A 17 year old male reported to our department with a chief complaint of pain in upper and lower jaw while chewing food since last 10 days. There was history of RTA 10 days back with history of loss of consciousness of approx 2 hours and bleeding from nose and mouth. After primary stabilization and neurosurgical clearance at a local hospital, on day 10 since RTA, the patient was referred to our centre for the management of facial fractures. On examination, the general condition was fair with GCS=15. There was resolving bilateral infraorbital ecchymosis, multiple abrasions over face with minimal facial edema. Eye movements and vision were normal. The pupillary reflex and reaction were also normal. Tenderness was present along the nasal bridge, bilateral infraorbital margin, left lateral orbital margin, left zygomatic buttress region and step deformity along midsymphysis fracture mandible with deranged occlusion. Mouth opening and lateral jaw movements were normal. A provisional diagnosis of left LeFort III with midsymphysis fracture mandible was made. CT scan face revealed fractures of nasal and bilateral frontomaxillary process. An incomplete right maxillary fracture and left paramedian palatal split was also present. Mandible was fractured at midsymphysis region. After PAC, ORIF using titanium plates and screws was done for mandibular symphysis fracture under LA in OT with IMF for one week. After 24hrs, External skeletal

fixation using POP head cap with modified maxillary arch bar with a central horizontal bar was done under local anaesthesia in OPD setting. After 24 hrs, the patient was discharged with regular follow-up. The apparatus was removed after 6 weeks in OPD without LA. The patient had normal occlusion with no significant complications.



DISCUSSION

The simple LeFort classification system is often inadequate to describe the pattern and extent of fractures in complex facial injuries. The majority of complex facial injuries are a combination of midface fractures with associated fractures of mandible^{1,2}. This was evident in both the cases presented.

Horizontal and vertical buttresses protect the maxilla and midface against impact wherein the horizontal buttresses are of two types – coronal and sagittal. The midface lacks sagittal buttresses, particularly in the central segments thus resulting in flattening of midface with severe injury¹.

RTA was the main etiological factor in both the cases. Also, studies have shown that RTA and assault account for over two-thirds of facial fractures, of which, 40% involve midface excluding the nose. The relative frequency of LeFort fractures as reported by Manson and Morgan reveals LeFort II > LeFort I > LeFort III in ratio 42:30:28 and 67:25:8 respectively¹.

The clinical signs of LeFort II and LeFort III fracture are: bilateral circumorbital ecchymosis and bilateral subconjunctival hemorrhage, gross edema with lengthening of middle third of face and malocclusion. The combined features produce the so called "panda facies"^{1,3}. Independent mobility of right or left side of the palate indicates a sagittal fracture of the maxilla and palate and requires unique treatment strategies¹. These features were more evident in Case 1 than Case 2, respective of day of reporting since RTA. High resolution CT scan head and face were done to detect head injury and the extent of maxillofacial injury for proper assessment¹.

The main objectives of treatment for panfacial trauma are: preservation

of life; maintenance of function- restoring pretraumatic functional occlusion and mastication and restoration of form-facial appearance^{1,4}. Many techniques have evolved for treating fractures of the middle third of facial skeleton beginning with the now-not so popular methods of external fixation, which prevailed before the advent of antibiotics, to modern craniofacial surgical techniques^{1,5}. Ipsen (1933) first proposed internal K wire fixation of facial fractures. Dingman (1939) popularized rubber band traction to immobilize difficult fractures of the midface; Adams (1942) used direct internal wiring and suspension techniques. Dingman subsequently emphasized sequential suspension of the reduced fragments to the nearest superior stable buttress. Ferraro and Berggren (early 1970s) suggested rigid internal fixation with immediate bone grafting for the repair of complex facial fractures, and since that time the practice has become widespread^{1,3}. Manson believed that the mandible is the principal structural pillar of the lower midface upon which LeFort fractures can be reduced and stabilized. Midface retusion can be averted by placing the maxilla in proper occlusion with the mandible using MMF and then stabilizing the midfacial buttresses with plates¹. Craniofacial suspension in conjunction with intermaxillary fixation is the time honored method of LeFort fracture management and also an adjunct in panfacial trauma to simultaneously stabilize fractured mandibular segments^{1,2,6,7}. Its main indications are⁴: (1) complex avulsive injuries^{4,6} (2) compromised anteroposterior or vertical bony support that obstructs the airway^{2,6} (3) old and unfit patients⁶, (4) when internal suspension wiring is not possible^{3,6}. There are four methods of External skeletal fixation which are in general use at the present time: (1.) Plaster of Paris head cap; (2.) Halo frame; (3.) Box frame; (4.) Levant frame.

In Case 1, External skeletal fixation was done as internal suspension wiring was not possible due to lack of stable zygomatic arch and to avoid any unwanted movement at craniofacial junction w.r.t. associated NOE fracture. **In Case 2**, the patient was deferred for internal suspension wiring to avoid any undue movement at NOE region. ORIF was done for mandibular fracture and external Rigid fixation using POP head frame to mandibular external pins (in Case 1) and modified upper arch bar for midface fracture (in Case 2) was done under LA in OPD.

Craniofacial suspension using POP head cap is a quick, simple and

efficient immobilization of middle third fracture with/without associated mandibular fracture^{3,4}. It is preferable to apply the External skeletal fixator between 6th and 12th day, when the swelling has subsided, however, early application is not contraindicated. Reduction must be done before the 15th day as after this period great difficulty may be experienced with reduction. Although the patients had to sleep on their backs, they were comfortable and there were no major complications⁴. It is vital to keep the wire cutter at the bedside at all times⁵.

This technique had many advantages³: (1) easy and simple method, can be used by beginner maxillofacial surgeons; (2) cost effective and good patient compliance; (3) can be done in OPD / ward, when OT is not available, thus reducing the operating time and hospital stay of the patient; (4) any loosened part of apparatus can be tightened, if loose, or replaced, if damaged, during healing period; (5) avoids complications countered in internal suspension wiring viz., damage to the eye, facial nerve and failure to pass the wire around the zygomatic arch; (6) prevents collapse of the facial tissue normal dimensions, and so preserves the tissue planes to provide easier dissection at later reconstructive surgery, which makes a better outcome possible.

CONCLUSION

It can be concluded that the advent of newer techniques does not outweigh the importance of time honored standard techniques. This technique empowers the maxillofacial surgeons to provide a cost effective i.e., economical, efficient and immediate treatment of complex maxillofacial trauma under OPD settings.

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