

EXTENDED SPECTRUM OF MAXILLOFACIAL SURGEONS : CASE REPORT ON MANAGEMENT OF FRONTAL BONE FRACTURE

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Abstract

Whenever there is a fracture of upper third (cranial part) of the facial skeleton, frontal bone is likely to fracture. Frontal bone can fracture in central or lateral parts. These injuries are in close vicinity with the brain and its meninges [1]. Who should deal with these injuries, is an obvious question to be asked? A maxillofacial surgeon with his expertise can deal with these craniofacial injuries. A case of lateral frontal bone fracture was treated with excellent result at a private Neuro- center, Meerut Institute of Mental health and Neurosciences (MIMHANS), is presented in this article.

Key words: Frontal-lateral, hemicoronal incision, ORIF, depressed fracture, esthetics.

Introduction

One step further than the maxillofacial region is the craniofacial region. Being a maxillofacial surgeon the main domain of our trauma surgeries includes the mandible & mid-face. When there is a trauma of upper one third face (cranium), one wonders, who is the right person to deal with these injuries? Off course a maxillofacial surgeon who has a vast experience in handling the trauma cases can treat these craniofacial injuries with ease. If there is associated head injury one must team up with the Neuro- physician or Neuro- surgeon according to the need of the case.

Case Report

A trauma patient, 24 year male sustained injury in a road traffic accident. He was admitted in I.C.U of a Neuro Hospital (MIMHANS), MEERUT, U.P. Thorough examination of the patient was carried out (Fig.1 & 2). C.T Scan of Head and P.N.S radiograph was done, and on the basis of clinical examination and imaging severe head injury was ruled out and conservative management of head injury was started. Besides head injury, patient had left lateral frontal bone fracture, which was comminuted and depressed and also associated fracture of the left zygomatic bone (Fig.3).

Patient was assessed in terms of any ophthalmic injuries, mouth opening, mandibular movements etc, and no abnormality was found in any of the above mentioned parameters.

After four days of trauma, head injury element was improved. Now only debate left was on the treatment of the fractured facial bones.

In a young fellow like this, a depression at lateral side of

the forehead would have been a lifelong problem in terms of esthetics, if not in terms of function.

So, we decided to address fracture sites surgically.

Procedure

Patient was anesthetized via nasal intubation and lateral frontal bone fracture was approached with the help of hemicoronal incision (fig.3). Bone fragments were reduced (Fig.4) and were immobilized with titanium bone plates. Following this, fracture of the left zygomatic bone was treated with ORIF (open reduction and internal fixation)(Fig.5). Hemi Coronal incision was sutured (Fig.6), and on immediate post-op marked elevation of the fractured lateral frontal area was appreciable.

Discussion

The frontal bone injuries can be central, frontal or lateral frontal. In central frontal injuries one must address the frontal sinuses. During fracture treatment, maintenance of integrity of frontal sinuses is of utmost importance [2]. In lateral frontal injuries the approach is to be selected cautiously. Amongst the various approaches coronal approach provides the best exposure. Coronal approach is a difficult approach as it has got its main intra operative complications i.e. bleeding and facial nerve injuries. To prevent excessive intra-operative bleeding one must use Rayne's clips or suture the flap margins on both the ends before giving the incision. Facial nerve injuries can be minimized by identifying and saving it during flap elevation [3, 4].

During elevation of fracture fragments precaution should be taken to avoid injuries to brain tissue. If at all CSF leak is encountered or dural tear is noted it should be repaired in the same go.

In these injuries, besides the functional repair one must target to get the desired esthetic results, as in this case depressed bone was properly elevated to achieve esthetically pleasant result.

References:

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Fig.1&2 pre-operative photograph showing lateral frontal depression

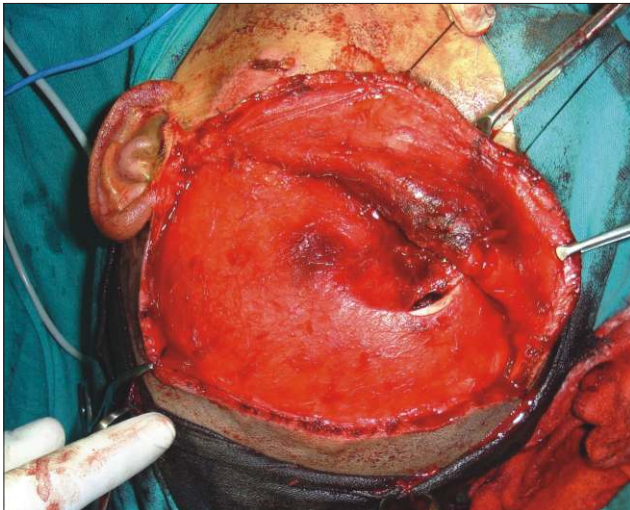


Fig.3 hemi-coronal incision

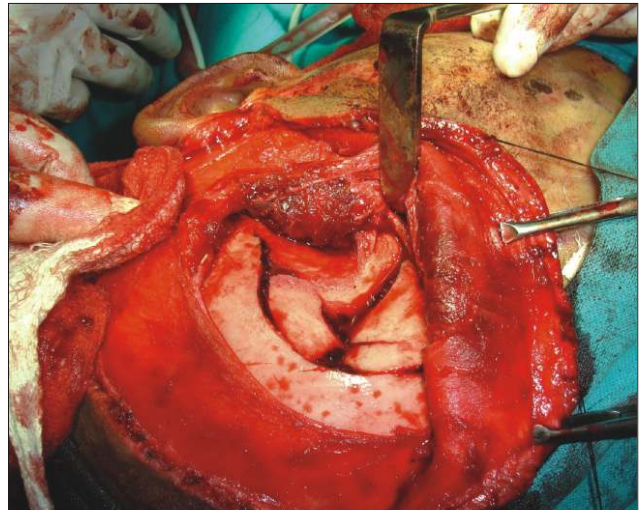


Fig.4 exposed fracture fragments

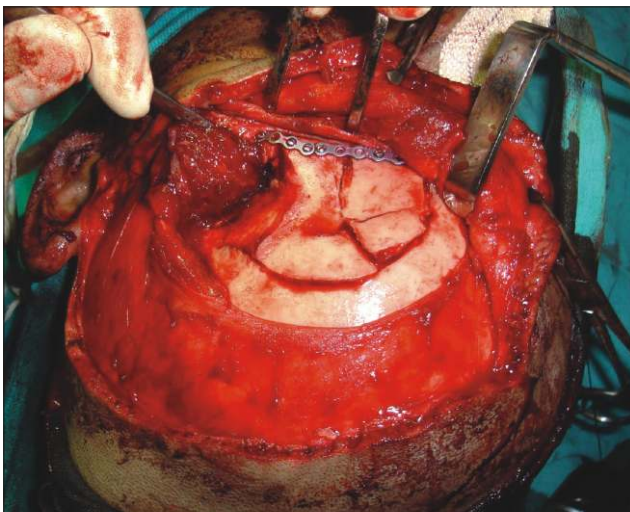


Fig.5 immobilization using Titanium plates



Fig.6 final closure