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Traumatic frontonasoethmoidal encephalocele

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A 12-year-old girl was hit by a passing vehicle, and was dragged for some distance with it. She had transient loss of consciousness, followed by recovery. She was admitted with swelling over the frontonasal region (Fig 1), and watery discharge from the nose. She was evaluated by CT brain (Fig 2) which showed fracture anterior skull base and herniation of brain matter into the frontonasal region. There were multiple fractures of the frontonasoethmoidal region (Fig 3). She was taken up for surgery under antibiotic cover (Cefotaxime and amikacin). The injury was exposed by a bicoronal scalp flap reflected caudally till the nasal and infra-orbital regions. After lifting the bone pieces, dura was repaired, and basal dura was sealed with fibrin glue followed by application of a pericranial flap. Mid face, orbital rim and frontal region was reconstructed using titanium miniplates (Fig 4). Postoperative period was uneventful, and MRI showed sealing of anterior skull base fracture (Fig 5 a & b). Her appearance and cosmetic result was satisfactory at the time of discharge (Fig 6).

Fig 1: Clinical appearance after injury

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Fig 2: CT (sagittal reconstruction) showing frontonasoethmoidal encephalocoele

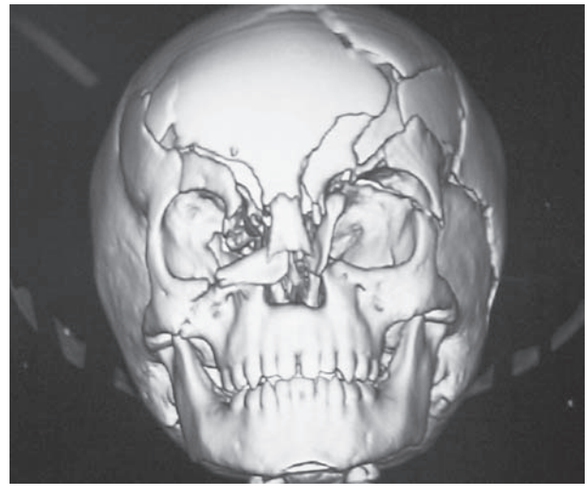

Fig 3: 3D CT showing maxillofacial fractures

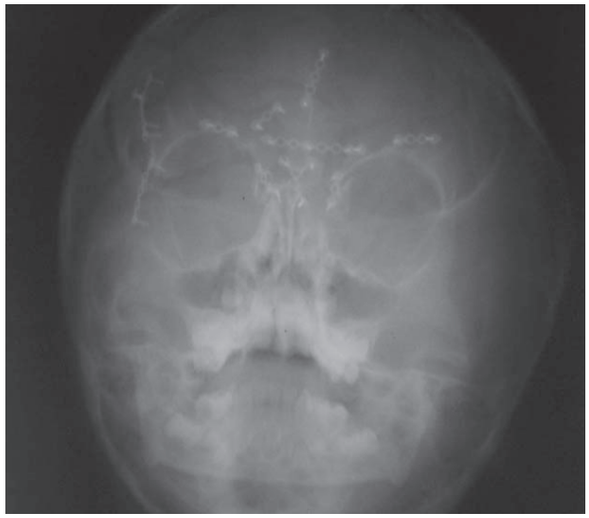

Fig 4: Postoperative radiograph showing reconstruction of the facial skeleton

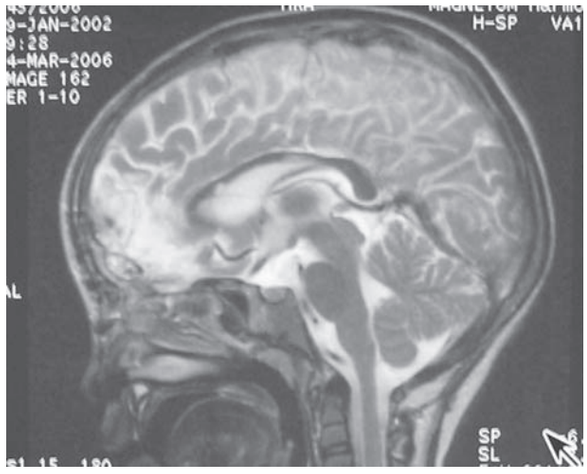

Fig 5a: Postoperative MRI (sagittal, T2-weighted) showing reconstructed skull base and absence of CSF leak

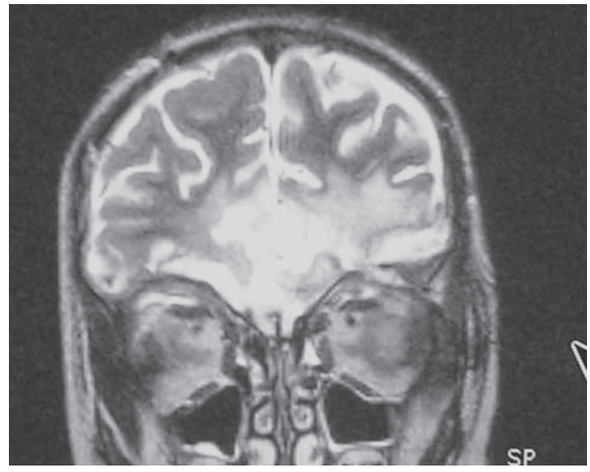

Fig 5b: Postoperative MRI (coronal, T2-weighted) showing absence of CSF leak

Fig 6: Postoperative appearance of the patient