

CASE REPORT

PEDIATRIC FACIAL TRAUMA –A CASE REPORT

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ABSTRACT

Pediatric Maxillofacial trauma management requires special training and skills since very few cases one sees during postgraduate study period. The best treatment option open reduction and internal fixation but even that it is contraindicated in some cases due to unerupted teeth and mixed dentition. In such cases we have to follow old conventional procedures and go ahead with non-rigid fixations. Here by we present a case of a 5 year old child who sustained Mandibular Fracture case which was managed by Occlusal Splint and Circumferential Wiring with good postoperative results..

Keywords: Trauma, Pediatric, Splints.

LITERATURE REVIEW

Literature report 0.6 to 1% of Pediatric mandibular fractures below 5 yrs of age.¹ Major injuries affecting the face are associated with hyperactivity of the child, fall, road traffic accidents (RTA), assault, and child abuses which are the most frequent risks of facial bone fractures in children.² The mandible is the most frequently fractured facial bone after the nasal bone in the pediatric patient.³ Fractures are usually nondisplaced or greenstick in nature.⁴ The management of pediatric mandibular fractures is challenging for maxillofacial surgeons due to ongoing mandibular growth involving tooth buds.⁵ Conservative approaches involving the use of acrylic splints, lateral compression with an open-cap splint stabilized by circum-mandibular wiring, and

maxillomandibular fixation with an arch bar and eyelet wiring are used.⁶ Cap splint provides close reduction and stabilization of mandibular fracture and allows hygiene maintenance without disturbing tooth buds.⁷

CASE REPORT

A 5 years old child patient was brought to our clinic with a history of trauma one day before. Patient's History revealed by parents that kid had a fall from the bicycle after hitting a pillar. Parents noticed swelling on left side of the face, a slight deviation of the chin towards right and avulsion of lower right front tooth during injury. On clinical examination, extra orally, Oedema ++ was seen on left side of the face and mandibular deviation towards right side was noticed. Intra orally, Ecchymosis was seen in the lower lip, Discontinuity in the lower arch dentition, Right lateral incisor was avulsed. There was a midline shift towards right and cross bite on the right side. Left side bite was normal. Patient was advised OPG and 3DCT SCAN. Radiographically, there was a fracture line seen in the mandibular symphysis region extending from right primary lateral incisor area (upper border of the mandible) to the left 1st primary molar (lower border of the mandible). Treatment plan advised was closed reduction and stabilization with occlusal splint under LA in the clinic if the kid cooperates (or) closed reduction and stabilization with occlusal splint and circumferential wiring under GA if the child is uncooperative.

Occlusal splint fabrication: For occlusal splint fabrication, upper and lower alginate impressions were taken, and cast was poured with dental stone. The lower cast was split at the right primary lateral incisor region into 2 segments. The segments were joined back into proper continuity and occlusion with the upper cast with the help of modelling wax. Another duplicate impression of the lower cast was then taken with alginate and cast was poured with die stone. This cast was sent to the lab for occlusal splint fabrication. Once the occlusal splint was fabricated, closed reduction of the fractured segments under LA and stabilizing it with occlusal splint was tried on chair side in the clinic. However, as the child was hyperactive and very uncooperative, we decided to carryout closed reduction of the fractured segments and stabilization with occlusal splint and

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Fig. 1: Pre- Operative Images

circumferential wiring under General Anesthesia. Surgical Profile and Pre Anaesthetic check-up was done. Clearance was obtained from the Pediatric Anaesthesiologist and Paediatrician. Patient was posted for the procedure. GA was administered via Naso-endotracheal Intubation. Grooves were made on the occlusal splint distal to left and right canines with straight hand piece and round bur to hold the wire in place. The fractured segments were reduced with manual manipulation and stabilized with occlusal splint. Occlusal splint was cemented with luting GIC. Circumferential wiring was done with SS WIRE around the occlusal



Fig. 2: Pre- operative OPG & 3D CT Scan

splint, distal to canines to stabilize the splint. Post surgery, patient was kept on IV Fluids, Analgesics and Antibiotics for 2 days. No post operative complications were seen. Slight oedema + on 1st postoperative day present. No deviation of the mandible seen. Patient was discharged after 3 days. Parents were instructed to give soft diet, maintain the child's oral hygiene and was prescribed Betadine Gargle. Follow up was done after 1 week, 3 weeks and 6 weeks. Betadine Irrigation was done during follow up visits. After 6 weeks the wire and splint were removed and scaling was done. The fractured fragments of mandible were firmly united with correct occlusion of teeth and alignment of the mandibular arch.

CONCLUSION

The treatment of the fractured pediatric mandible represents a therapeutic challenge, complicated by the

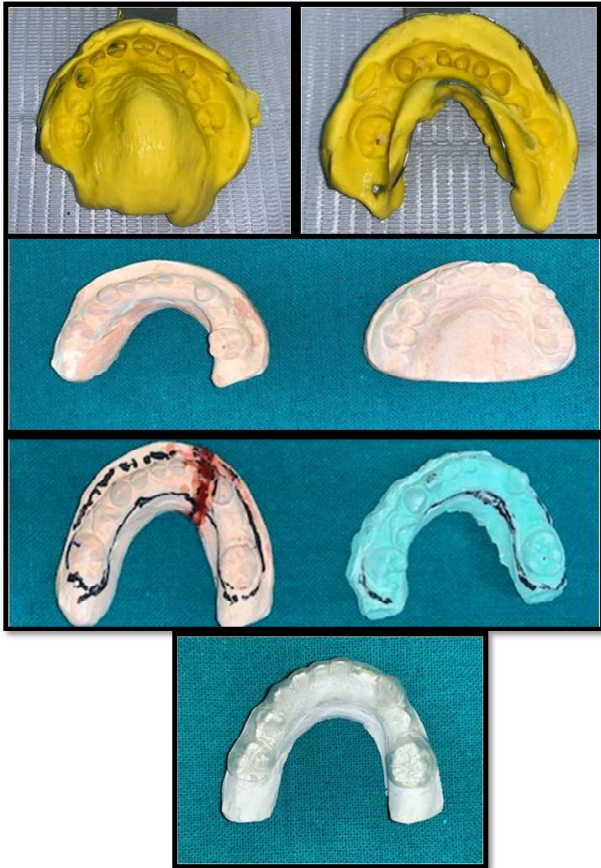


Fig. 3: Impressions & Splint



Fig. 4: Immediate Post- Operative Images



Fig. 5: Post- Operative Follow up Images



Fig. 6: Post- Operative OPG

dynamic nature of the developing mandible, the presence of tooth buds, and dental instability. Occlusal splints are a easy, and time tested modality for immobilizing pediatric mandibular fractures. Patients are comfortable and can eat soft food with immediate mobility which is very important in pediatric cases. The home care management for the parents become easy when child is able to eat and is fully mobile.

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