**Case Report**

**Eyelet Wiring in Closed Reduction in the Treatment of Mandibular Fracture: A Case Report**

Lahaou Baladji Touré¹, Oumar Ongoiba¹, Djibril Kasssogué¹, Seydou Sogoba¹, Bassirima Traoré², Mohamed Elmasry³

¹Department of Surgery, Regional Hospital of Tombouctou, Tombouctou, Mali
²Department of Medicine, Regional Hospital of Tombouctou, Tombouctou, Mali
³Consultant of Oral and Maxillofacial surgery, Ganzouri Specialized Hospital, Egypt

**Abstract:** The mandibular fracture becomes frequent in the region of Tombouctou northern Mali. Owing to the absence of Oral and Maxillofacial team, limited complementary exams; and limited surgical tools, we decided to practice closed reduction for favorable, limited displacement of mandibular fracture as the ideal alternative method of treatment for mandibular fractures using Eyelet wiring which is rapid, simple and costs less to the patient.

**Keywords:** Eyelet wiring, Closed reduction, Mandibular fracture, Tombouctou.

**INTRODUCTION**

Fractures of mandible comprise 10 – 25 % of all fractures. The condyle, angle and body are the most common anatomic locations. Frequent combinations of multiple mandibular fractures are angle and contralateral body, bilateral angle or body, and condylar and contralateral body [1].

Assaults constitutes the most common cause of mandibular (jaw) fractures at 48-65%, followed by motor vehicle accidents, falls and gunshots wounds [2, 3]. The mandible is one of the bones most affected by facial fractures commonly resulting from trauma to the face. The ultimate goal of treatment is to re-establish the pre-injury dental occlusion (bite), mandibular anatomy and jaw function of the patient. Treatment approaches range from conservatives non-invasive management by ‘closed’ reduction and immobilization using intermaxillary fixation (IMF) to the more invasive surgery based ‘open’ reduction incorporating an internal fixation approach [4].

**PREOPERATIVE ASSESSMENT**

- Clinically patient was assessed with the evidence of the fracture of the mandible through the visualization deformity; palpation tenderness; and the malocclusion. Clinical evidence was confirmed by Radiographical Lateral view of the mandible.

- Radiographically; Lateral view of the mandible was done to rule out the fracture line of the body of the mandible (fig.1).

**CASE MANAGEMENT**

Eyelet wiring was performed under local anaesthesia for total mouth area. One of quadrants of mandible was anesthesized by mandibular closed mouth technique (The side of the fracture of the mandible); then the others were done through the infiltration technique of local anaesthesia. Closed reduction was performed using...
pre-prepared wire of 25 gauge with loops, placed firstable between two maxillary central incisors where loop faces labial mucosa; then interdigitated through the loop from canine to canine (13 to 23), and the same manner was done for lower incisors from canine to canine (33 to 43), after that another Eyelet wire was placed between second premolar and fist molar on the each quadrant of Maxilla and Mandible where loops facing buccal mucosa, then the wires were interdigitated through the loop. Finally Intermaxillary Fixation (IMF) was performed by the interdigitation of loop to its corresponding loop of other jaw (Fig.2).

**DISCUSSION**

Good bone healing of fractures requires close apposition of the fragments and immobility for a period of about 6 weeks [5]. We decided to perform this rare technique closed reduction; for favorable, limited displacement of mandibular fracture because of the absence of oral and maxillofacial team, and limited surgical tools, as the ideal alternative method of treatment for mandibular fracture.

Eyelet wiring is rarely used today as a method for Intemaxillary Fixation of mandibular fracture, but it could be used in underdeveloped country as alternative method, because of being rapid, simple and economically less cost to the patient. The technique was acceptable, and Intemaxillary Fixation was stable during healing periods.

**REFERENCES**
