

The Case of the Irretrievable Mandibular Condyle: My Experience with Utilization of an Extraoral Vertical Ramus Osteotomy in Managing Severely Medially Displaced or Dislocated Mandibular Condyle Fractures

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Abstract Medially displaced condylar head fractures pose a challenge for oral and maxillofacial surgeons. Accessing, retrieving, and reducing a displaced fracture is seemingly impossible at times. Consideration of the risks must also be taken, including significant bleeding during exposure, injury to the facial nerve, and ability to fixate an unstable segment. Performing an extraoral vertical ramus osteotomy to safely access the condylar head fracture will provide a safer and more meaningful approach to managing severely medially displaced or dislocated mandibular condyle fractures in cases when the condyle is irretrievable.

Keywords Extraoral · Mandible · Fractures · Condyle

Introduction

Mandibular condyle fractures are not uncommon as the incidence ranges from 25 to 35% [1]. Management of mandibular condylar fractures has provided a range of treatment options from conservative options which include liquid diet or closed reduction with early mobilization to open reduction internal fixation. Closed reduction versus open reduction has been in debate for many years [2]. The decision to treat a fracture conservatively with closed reduction as opposed to operative intervention with open reduction depends on many factors such as the patient's

age, medical history, presence of teeth, ability to obtain intermaxillary fixation (IMF) maintaining adequate occlusion, degree and direction of displacement, presence of a foreign body, and concomitant injuries [2]. The absolute indications for open reduction have been outlined by Zide and Kent which include: (1) condylar fractures displaced in the middle cranial fossa, (2) lateral capsular condylar displacement, (3) inability to obtain adequate occlusion with closed reduction, and (4) presence of a foreign body [3]. Internal fixation techniques include the use of rigid fixation plates and screws, bioabsorbable plates and screws, lag screws, intraosseous wires, and extraoral pin fixation [4]. Approaches include preauricular, retromandibular, and endoscopic techniques. If open reduction internal fixation is planned, almost all fractures can be accessed, retrieved, and reduced through these techniques. However, although rare, severely medially displaced or dislocated mandibular condyle head fractures are at times very difficult to even retrieve if not impossible at times. Closed reduction in these instances leads to a higher rate of malocclusion, deviation upon opening, long-term temporomandibular joint dysfunction, and ankylosis. Such cases will require open reduction with the condyle needing to be taken out to allow for adequate reduction [5]. In certain cases, the unopposed traction of the lateral pterygoid muscle severely displaces or dislocates the condyle to the point where not even the condyle can be visualized. Even when the mandible is retracted to increase the joint space for added visualization, in certain cases the condylar segment still becomes irretrievable. In such cases, utilization of an extraoral vertical ramus osteotomy will be beneficial to access, retrieve, and fixate the mandibular condyle.

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