

Case Report

A CASE OF POSTERIOR DISLOCATION OF MANDIBULAR CONDYLE INTO EXTERNAL AUDITORY CANAL

Rahul VC Tiwari *, Philip Mathew **, Roshni Arora ***, Jisha David ****, Heena Tiwari *****

* Department of Oral & Maxillofacial Surgery and Dentistry, Jubilee Mission Medical College Hospital and Research Institute, Thrissur, Kerala, India.

** Department of Oral & Maxillofacial Surgery and Dentistry, Jubilee Mission Medical College Hospital and Research Institute, Thrissur, Kerala, India.

*** PG Student, Department of Conservative Dentistry and Endodontics, Vyas Dental College and Hospital, Jodhpur, Rajasthan.

**** Registrar, Department of Oral & Maxillofacial Surgery and Dentistry, Jubilee Mission Medical College Hospital and Research Institute, Thrissur, Kerala, India.

***** Dental Surgeon, Department of Dentistry, Government Dental Surgeon, CHC Makdi, Kondgaon, C.G., India.

ABSTRACT

Temporomandibular joint dislocation is a common phenomenon reported regularly in our day to day clinics. Posterior displacement of the mandibular condyle is often seen which is mostly reduced manually but dislocation posterior to the posterior part of glenoid fossa into the external auditory canal is rarely seen and reported. So here we are reporting a case of Temporomandibular joint dislocation of mandibular condyle into the external auditory canal. In outline, mandible can bring about a TMJ mechanical assembly damage. Because of the cozy connection amongst TMJ and EAC, atypical damage, for example, a break of the front mass of the EAC can happen. An oral and maxillofacial specialist, when called to inspect and analyze TMJ damage issue, has the testing obligation to consider the potential attending fleeting bone breaks or intracranial inconveniences in collaboration with radiologists, ENT specialists and neurosurgeons.

KEYWORDS: TMJ, External auditory Canal, Condylar Dislocation

INTRODUCTION

The case report of the patient portrayed in this article, is assessed for the back separation of an in place mandibular condyle posterior to genoid fossa in the external auditory meatus. The etiology for the same was due to fall from bed during sleep. Patient and bystanders reported it during mid night when patient was in sleep and suddenly she woke up due to fall and was having pain and unable to close her mouth in the proper form. Orthomopantomograph was taken to evaluate the condition of mandibular condyle position in relation to External auditory Canal (EAC). Patient was 43 year female with complete edentulous upper and lower arch. OPG showed bilateral posterior movement of TMJ into EAC. A traumatical decrease of the joint was refined and then was placed back in position bringing about a palatable result without any complexities and without change of hearing disability. The front bony mass of the outer acoustic related canal, which speaks to some portion of the tympanic part of the bone, characterizes the back furthest reaches of the glenoid fossa, and is arranged near the condyle of the mandible. Because of this close anatomical relationship, herniation of the TMJ mechanical assembly into the External auditory Canal (EAC) happens unexpectedly or auxiliary

to neoplasia, irritation, formative issues and particularly injury. Coordinate high-vitality affect into the jaw dislodges the condyle posteriorly and the outcome might be a crack of the condyle or back disengagement of in place condyle without break, a separation of condyle into center cranial fossa or transient fossa, or a crack on the foremost mass of the EAC.

CASE BASICS

Transient bone cracks are, by definition, breaks of the skull base, and are frequently related with wounds to different territories of the craniomaxillofacial skeleton [1]. They speak to around 20% of all skull cracks, while up to 75% of patients with a skull base break have a transient

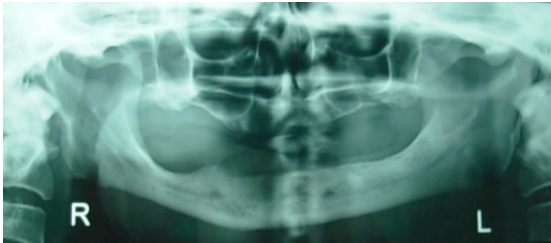


Figure 1: OPG Showing Bilateral Dislocation of Mandibular Condyle into External Auditory Canal fracturing Glenoid Fossa.

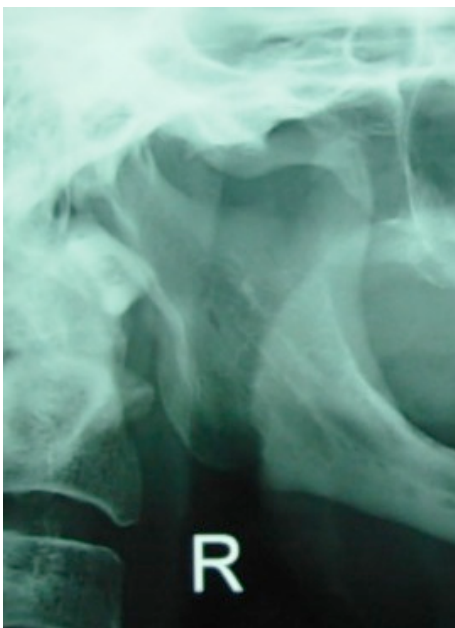


Figure 2: OPG Showing TMJ Right Side

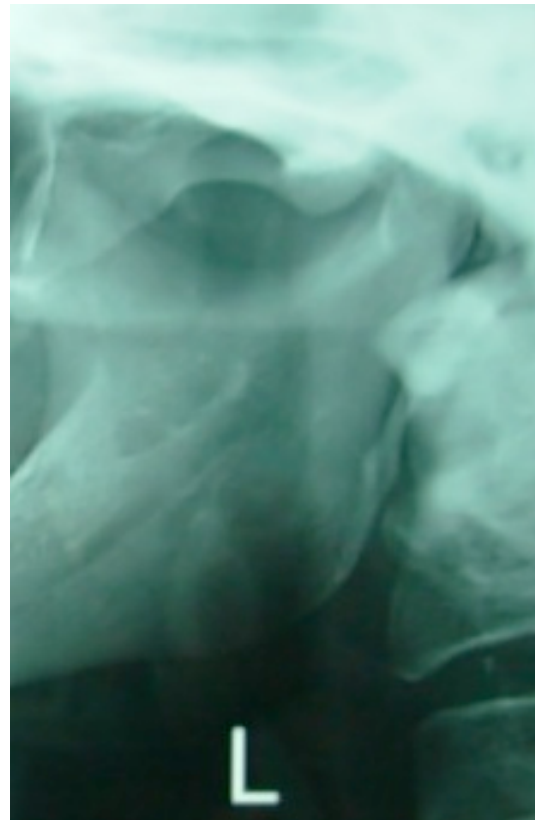


Figure 3: OPG Showing TMJ Left Side

bone crack as a segment of the damage [1]. The most well-known causes incorporate engine vehicle mishaps, falls, bike mischances, athletic wounds, strikes and entering injury [2]. Hazard factors incorporate more youthful or more established age, male sexual orientation. The fleeting bone incorporates the squamous, petrous, mastoid, and tympanic parts, also as the styloid procedure [1]. Traditionally, petrous worldly bone breaks are named longitudinal (parallel to the long hub of the petrous bone) or transverse (opposite to the late hub) contingent upon the introduction of the break line, or blended when the crack line reaches out toward any path over the basal part of the skull [1]. Longitudinal breaks start at the squamous bit of the fleeting bone, gone through the EAC and turn anteriorly toward the foramen lacerum. They represent around 80% of cases, while transverse breaks are far less regular than longitudinal cracks and are every now and again caused by an extreme hit to the occipital bit of the calvaria or by a direct frontal blow [1]. Transverse breaks expand specifically over the petrous pyramid, cracking theotic container, and after that expand anteriorly along the eustachian tube and geniculate

ganglion. The EAC is partitioned into an external cartilaginous, 33%, and an internal rigid, 66%, which speak to the tympanic segment of the worldly bone [3]. The waterway reaches out from the conchal ligament to the tympanic film and is roughly 25mm long and somewhat S formed. Inside the foremost and substandard parts of the cartilaginous ear channel, there are little fenestrations through the ligament called the "crevices of Santorini". The foremost and second rate dividers and the lower segment of the back dividers of the rigid waterway are produced from the tympanic ring. The back divider is shut to the mastoid cells and the diving bit of the facial trench. The substandard divider is made out of thick bone and the front wall, Irene et al, which characterizes the back furthest reaches of the glenoid fossa, is near the condyle of the mandible. The blood supply of the EAC begins from the outside carotid course (back auricular also, shallow fleeting branches) and from the maxillary course (profound auricular branch and anterior tympanic vein) [3,4]. This rich blood supply clarifies the seeping from the EAC in patients with maxillofacial breaks. In this article we show an instance of a patient with a break of the left outer sound-related channel because of a power connected in the correct side of the face.

CASE DISCUSSION

A 43 year-old female touched base to our center with inability to open her mouth, which were caused during sleep. At the season of the mishap the lady was moved to the Emergency Department of a nearby Hospital, where bandage was placed extraorally. As per the history, seeping in the left ear and hearing unsettling influences were found and assessed at first by an ENT specialist. After the essential care, the OPG was advised. Clinical examination elicited hearing uneasiness in the left ear, and also TMJ manifestations, for example, confined mouth opening, deviation and "locking" of mandible, particularly toward the beginning of the day session because of circle disturbances following the mishap. She additionally griped of pre auricular torment in the left side. There were no indications of brain damage or neurological shortage. From the historical backdrop of the mischance, she revealed a hit the jaw due to fall

from bed and to the horizontal craniofacial damage of the left side (Fig 1). So fracture of the glenoid fossa was viewed as conceivably being caused by transversal development of the condylar leader of the lower jaw. At the point when the patient went to our facility, all encompassing radiograph and OPG demonstrated adeficient parasymphyseal crack of the glenoid fossa of skull leading to displacement of mandibular condyle approaching and exposing external auditory canal. There was a bilateral displacement (Figs. 2, 3) left condyle appeared to be in a front place amid driven impediment. With the patient being under general anesthesia the parasymphysis and zygoma breaks were diminished and the left TMJ was uncovered by the preauricular cut. After the circle diminishment utilizing absorbable smaller than expected grapple (polylactic corrosive) with ethibond non-absorbable suture and ami the investigation of the joint, a hole was uncovered in the back divider, which compared to the break of the front mass of the EAC. With watchful passage of a limit lift inside the EAC and following the trench layout, decrease of the crack was accomplished, with arrival of trademark sound. The postoperative course was uneventful. Examination of the patient by an ENT pro in the next days, demonstrated an extensive change in the hearing debilitation. Two long time after the operation a figured tomograph demonstrated an EAC broadness inside typical limits. Hearing misfortune or debilitation, sickness, regurgitating and vertigo, TMJ inconvenience or brokenness (TMJ trismus, failure to bite, and confined agony) are side effects of patients with fleeting bone and outside sound-related trench cracks, as were found for our situation. They consider as pathognomonic signs despite the fact that other clinical discoveries may incorporate ecchymosis, especially in the periorbital edema ("raccoon eyes" sign) [1] or in the postauricular locale because of the seeping from the mastoid veins (Battle's sign) [5]. Physical examination uncovers an outer sound-related waterway slash [6] or discharge [7-10], an a hemotympanum and a cerebrospinal liquid (CSF) an otorrhea or rhinorrhea, which happens in 20% of transient bone breaks [1]. Especially, concerning the relationship of craniofacial cracks with outside sound-related channel dying (EACB), Lu et al. [4] discovered EACB with a

general recurrence of 7.5% (43 of 573 craniofacial breaks) and explored the nearness of EACB between 4 crack types (skull base, midface, mandibular with and without association of the condyle). Factual investigation demonstrated that skull base and mandibular intracapsular condylar breaks are the two primary driver of EABC, while midface and mandibular break cases not including the condyle are very uncommon. Facial nerve loss of motion exists as a rule, it is noted promptly and stays perpetual unless adjusted surgically [9]. Hearing misfortune, because of damage to the tympanic film, the center ear ossicles or the nearness of a haematoma, is additionally a typical finding, and can be sensorineural or conductive [3,10]. The TMJ mechanical assembly is found front to the outside sound-related channel and has two articulating hard parts; the mandibular condyle and the articular prominence and glenoid fossa of Irene et al. The glenoid fossa is restricted posteriorly by the petrotympanic gap. The back piece of the glenoid fossa is framed by the front tympanic plate, which is thin and frail. Because of this close anatomical relationship, herniation of the TMJ into the EAC happens precipitously [11] or optional to neoplasia, aggravation, formative issues and particularly injury [11-14]. Coordinate effect into the button uproots the condyle posteriorly until the development is halted by the articular fossa and the tendons. The outcome is a break of the condyle or back separation of in place condyle without break [15], a disengagement of condyle into center cranial fossa [16,17] or fleeting fossa [16] or damage at the foremost mass of the EAC [5]. By differentiate, longitudinal fleeting bone breaks are typically related with posteriosuperior quadrant of the EAC close to the tympanosquamous suture [3]. The course, degree, extent and exact purpose of use on the face and the state of dentition and the occlusal position of the mandible, decide the kind of the amage in the temporomandibular district. Additionally, regardless of whether the mouth is open, irregularities of condylar morphology or the nearness of an especially thin top of the glenoid fossa influence the condylar separation. In our patient, the high-vitality nature of the causative power connected morally justified parasymphysis area caused a crack in the foremost mass of the left EAC, without a

condylar break. The outcome was hearing misfortune from the left ear because of EAC block. Registered tomography is the symptomatic methodology of decision for mandibular condylar cracks also, wounds in the transient area [11,18]. It is imperative to perceive the potential relationship between mandibular condylar injury and fleeting bone breaks. In our persistent, a CT-examination demonstrated a break in the front mass of left EAC and a reduction in EAC broadness. This case report underscores the need to examine the transient bone especially the petrous segment of EAC on CT for breaks in a patient with TMJ damage. Ways to deal with the joint incorporate preauricular, postauricular, endaural, rhytidectomal and submandibular. We picked the preauricular approach for TMJ recreation of inside unhinging and less demanding investigation and affirmation of the EAC crack. The decrease of the break was atraumatical and straightforward by the utilization of a lift which was embedded inside the EAC. Essential dependability was accomplished by wedging of nearby break destinations. The postoperative period was uneventful. In the following days after the operation, the hearing misfortune was reestablished. Treatment modalities for EAC, tympanic plate and transient bone cracks from TMJ herniation, by and large incorporate either open or shut diminishment of the related mandibular breaks [8,19], remaking of the foremost waterway divider, torment control, administration of occlusal inconsistencies, and physiotherapy to avert diminished mandibular scope of movement. Rather than previously mentioned interventional surgical strategy for treatment, for our situation report a traumatical reproduction of the front mass of the EAC and break decrease was accomplished amid TMJ plate diminishment and joint investigation, with watchful passage of a limit lift inside the EAC following the waterway outline.

CONCLUSION

In outline, an immediate hit to the mandible can bring about a TMJ mechanical assembly damage particularly on circle. Because of the cozy connection amongst TMJ and EAC, atypical damage, for example, a crack on the foremost mass of EAC can happen. An oral and

maxillofacial specialist, when called to look at and analyze TMJ damage issue, has the testing duty to take record of potential attending worldly bone breaks or intracranial entanglements in collaboration with radiologists, ENT specialists and neurosurgeons [20]. In such cases delicate atraumatic controls at the cracked otic area is by all accounts the treatment of decision. The fruitful result coming about because of our case bolsters the previously mentioned assessment.

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