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Double Mental Foramen: A Rare Normal Anatomical Variation –A Case Report.

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Abstract:
The mental foramens are present bilaterally between premolars, in the buccal vestibular region of the mandible. Inferior alveolar nerve and vessels enters through mandibular foramen and gives nerve and blood supply to the mandible along with all mandibular teeth. Mental nerve is terminal branch of inferior alveolar nerve which comes out through mental foramen which divide beneath the depressor anguli oris muscle into three terminal branches one descending branch and two ascending branch. Descending branch gives nerve supply to skin and chin while 2 ascending branches innervates skin and mucous membrane of lower lip. The Location of mental foramen is important for placement of dental implant in premolar region, orthognathic surgery or surgical treatment of body / Parasymphysis fracture. It is very important to identify anatomical variations in pre surgical imaging exams since damage to neurovascular bundles may have a direct influence on treatment success. The present case report describes the presence of double mental foramina in the left side of mandible, as detected during surgery.

Key Word*: Bifid mandibular canal, anatomical variation, mental foramen.*

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I. Introduction

Double mental foramen is one of the normal interesting anatomical variations that we may encounter in our routine practice during placement of implants, and surgery in the body region of mandible [1]. The incomplete fusion of 3 inferior alveolar nerves during embryogenesis is a suggested cause for formation of bifid mandibular canal or double foramen [2].

Case Report

A 22 year old female reported to the Department of Oral and Maxillofacial Surgery, with a history of trauma. No history of loss of consciousness, vomiting or bleeding from nose and ear. On examination, it was diagnosed as a compound mandibular fracture. 2D CT scan revealed compound fracture of Symphysis and Parasymphysis region and evidence of double mental foramen on left side of jaw. Under general anesthesia, by using an intra–oral approach, a vestibular incision was placed and full thickness muco-periosteal flap was reflected. Mental nerve was identified at the apices of first premolar and another mental foramen also found at the apical region of second premolar. There were two mental nerves were coming out through two separate mental foramen. The scattered fracture fragments were reduced and they were fixed with miniplates. Healing was uneventful and no post operative paraesthaesia was noted.

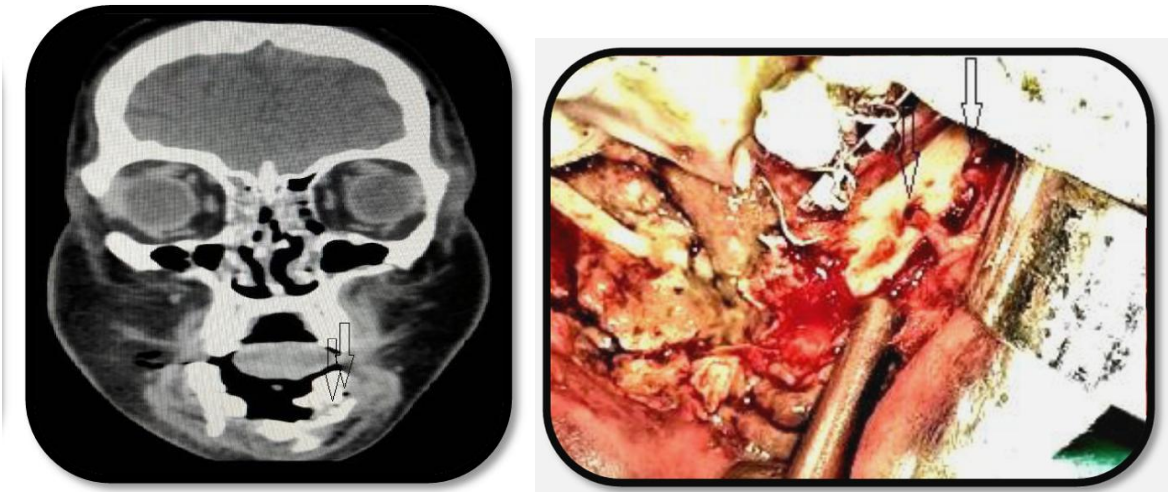

Fig 1and fig 2- Radiographic and intraoperative presentation of double mental foramen

II. Discussion

Mandibular canal contains the inferior alveolar nerve, inferior alveolar artery, and inferior alveolar vein and runs obliquely downward and forward in the ramus and then horizontally forward in the body [1]. Mental nerve is terminal branch of inferior alveolar nerve which comes out through mental foramen which divide beneath the depressor anguli oris muscle in to three terminal branches one descending branch and two ascending branch. Descending branch gives nerve supply to skin and chin while 2 ascending branches innervates skin and mucous membrane of lower lip[1]. According to Chavez Lomeli, there are three different components of the inferior mandibular nerve bundle indicating the existence of 3 different developmental fields in the mandibular dentition. These fields are innervated by different nerve branches with different origins and different timing in outgrowth from the central nervous system [3]. In 1988 Goodday reported a duplicate mental foramen during orthognathic surgery and directly confirmed the existence of 2 mental foramina and 2 mental nerves in a patient with a series of congenital malformations related to Rubella syndrome[4]. Another study on mandibular canal by Chavez Lomeli suggested that during embryonic development, there could be 3 inferior dental nerves innervating 3 groups of mandibular teeth that later fuse to form a single nerve. Partial fusion of these nerves can explain the presence of bifid or trifid mandibular canal canals [3]. Failure to localize a double mental foramen may result injury to the mental nerve, resulting in complications such as paresthesia, anesthesia, traumatic neuroma and bleeding during surgery. Patients with a mandibular prosthesis and resorbtion of alveolar bone in the proximity of the mental foramen may have pain because of the pressure on the neurovascular bundle. Therefore identification of this possible anomaly will permit the clinician to modify their prosthetic design [5-7]

III. Conclusion

Accessory mental nerve are rare normal anatomic variation. Therefore the clinicians should assess carefully for the presence double mental foramen prior to any surgical intervention in mandible to decrease the risk of complications.

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