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RESEARCH ARTICLE

Study of Position Mental Foramen in Relation with Lower Teeth of Dry Adult Human Mandible in Bangladeshi Population

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ABSTRACT: The mental foramen is the opening through which mental nerve passes from the mandible and usually located either between the roots of the first and the second premolar or apical to the second premolar. The aim of the study was to analyze different positions of mental foramen in Bangladeshi population. This cross-sectional descriptive study was done on 150 fully ossified dry human mandibles in the department of Anatomy, Mymensingh Medical College, Bangladesh between July 2019 to June 2020. A non- random purposive sampling technique was adopted. Study was carried out by observations only. In total samples, 131 (87.33%) samples showed this foramen on the longitudinal axis of second molar tooth and 19 (12.66%) samples showed this foramen in between the longitudinal axis of first and second molar teeth. Knowledge of these variations helps the dental and maxillofacial surgeons to do any interventional surgeries in this region of mandible.

Keywords: Mental Foramen, Dry Adult Mandible, Mental Nerve.

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INTRODUCTION

The mandible, the largest, strongest and lowest bone in the face, has a horizontally curved body, convex forwards and two broad rami, ascending posteriorly. The mandibular body, somewhat U-shaped, has external and internal surfaces, separated by upper and lower borders.[1] The mental foramen is located in the outer surface of the body of the mandible, midway between the inferior and the alveolar margin of body. It is present between premolars, in a vertical line with the supraorbital notch. It provides passage for the exit of mental nerves and vessels. Most of the mental foramina are oriented postero-superiorly. Variations in position of the mental foramina have been reported by many authors in different ethnic groups. The precise knowledge on the variation in the position of the mental foramen would be of much use for dental surgeries like curettage of premolar, filling procedure, dental implant, root canal treatment, orthognatic surgeries and nerve block anesthesia.[2]

MATERIALS AND METHODS

The cross-sectional descriptive study was performed between July 2019 to June 2020 in the department of anatomy, Mymensingh Medical college, Mymensingh, Bangladesh. Samples were collected from department of anatomy, Mymensingh Medical college and Community Based Medical College, Bangladesh. After all formalities from the Institutional Review Board (IRB) of Mymensingh Medical College (Memo no. MMC/IRB/2019/206 Dated. 11.11.2019), one hundred and fifty fully ossified dry human mandibles were collected by non-random purposive sampling technique. Unossified, broken and abnormal bones are excluded. Position of mental foramina was observed and noted whether it was just under the second premolar tooth or between the first and second premolar teeth. All the data were double checked, compiled and sorted properly. Analyzed data were displayed in table and pie diagram.

RESULTS

There were variations in position of mental foramen. In total samples, 87.33% (131) cases, the foramina were found on the longitudinal axis of 2nd premolar tooth. The rest, 12.66% (19) cases were found in between the longitudinal axis of 1st and 2nd premolar teeth.

Table 1: Incidence of Different Positions of Mental Foramen

Position of Mental Foramen	Frequency	Percent (%)
Below 2nd premolar	131	87.33
Junction between 1st and 2nd premolar	19	12.66

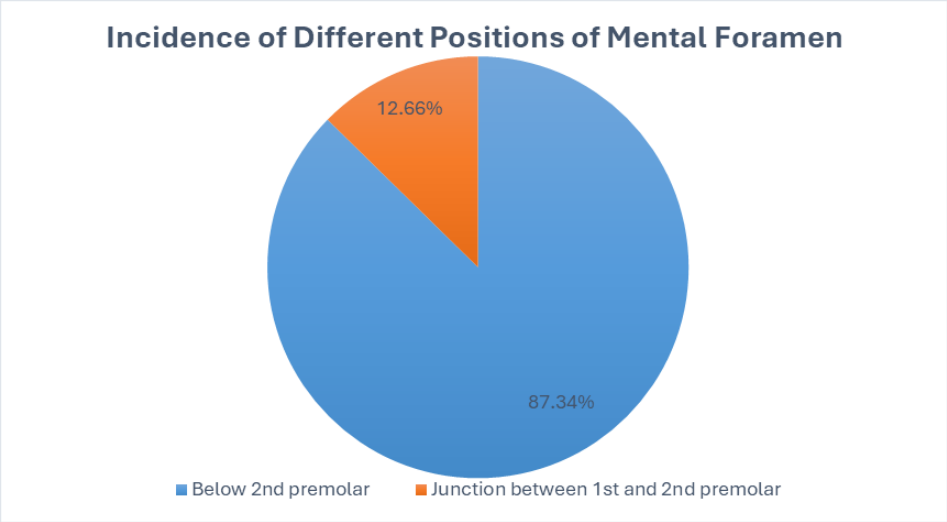

Figure 1: Incidence of Different Positions of Mental Foramen

DISCUSSION

In the present study there were variations in the position of mental foramina. In total samples, 87.33 % (131) cases, the foramina were found on the longitudinal axis of 2nd premolar tooth. The incidence of position of mental foramina below the 2nd molar tooth was higher than those of Alias *et al.*, Roy *et al.*, Karmali & Modi, Budhiraja *et al.*, Hoque *et al.*, Nanayakkara *et al.*, Singh & Srivastav as 44.3%, 52% 64.82%, 61%, 35.6% (Right) and 36.2% (Left), 63.6%(Right) and 45.4%(Left), 68.8% respectively.[3-9] In total samples, the incidence between the longitudinal axis of 1st and 2nd premolar tooth was 12.66% (19) in this study. The incidence was nearer to Singh & Srivastav as 17.8% but lower than those of Roy *et al.*, Karmali & Modi, Budhiraja *et al.*, Hoque *et al.* as 23.33%, 26.37%, 20%,42.2% (Right) and 42.7% (Left) respectively.[4-7, 9]

CONCLUSION

The knowledge on the positions of mental foramen is very much important for dental surgeons when they perform various form of surgeries. Our present study aims at acknowledging these positions and prevent complications and providing better outcome of the surgical procedures related to the mental foramen.

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