

INCIDENCE OF ACCESSORY MENTAL FORAMEN IN SOUTH INDIAN ADULT DRIED MANDIBLES

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ABSTRACT

Aims and objectives: Accessory mental foramen is a rare anatomical variation in human mandibles. The incidence of accessory mental foramen depends on age, sex, Race, ethnicity, population. Its position, number and distance from usual mental foramen and the surrounding bony landmarks are highly variable. So the aim of this study is to find out morphology and morphometry of accessory mental foramen in Indian population.

Materials and Methods: Present study was under taken 100 samples of dried mandibles of UN known sex and age. The incidence of accessory mental foramen was recorded and distance from usual mental foramen to Accessory mental foramen was measured and recorded by Digital vernier caliper.

Results: the incidence of Accessory mental foramen was 2%, observed bilateral variation in 2 cases out of 100 samples.

Conclusion: The anatomical knowledge about existence of accessory mental foramen may be helpful to dental surgeons to avoid injury to neurovascular bundle. The current study tried to given the incidence of bilateral presence of accessory mental foramen in Indian population.

KEY WORDS: Mandible, Mental foramen, Accessory mental foramen.

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INTRODUCTION

Mental foramen [MF] is located at antero lateral aspect of the body of the mandible below the interval between the premolars and it transmits mental nerve and vessels [1]. Any foramen in addition to MF in the body of mandible is known as accessory mental foramen [AMF] it transmits Accessory mental nerve. If the accessory nerve is not blocked by dental surgeon anesthesia will be imperfect.

Naitoh M et al [2] given the reason for the development of the accessory mental Foramen that mental nerve divides into fascicule this separation of the mental nerve takes place earlier than the formation of the mental foramen. Anatomical knowledge of this may helpful to prevent accessory nerve injury during mandible surgical procedures.

MATERIALS AND METHODS

Present study was conducted in 100 dried adult

human mandibles of unknown sexes in the department of anatomy, Bhaskar Medical College, Yenkapally village, Moinabad Mandal, Ranga Reddy District, Telangana, south India. This study concluded the occurrence of accessory mental foramen in mandibles and measurements like distance of accessory mental foramen in related to mental foramen by using Digital vernier caliper.

RESULTS

Present study was found bilaterally occurrence of Accessory mental foramen in 2 mandibles out of 100 and, the incidence was 2 percent. Unilateral accessory mental foramen was not noticed in any case. Shape of foramen was mostly rounded. The distance of AMF in related to usual one was recorded. In the first case (Fig. 1) AMF located superior to the usual MF around 4mm distance on right side and 5mm on left side. Second case (Fig. 2) AMF was seen 4mm behind the usual MF on right side and 4.5 mm left side.

Fig. 1: Showing the Bilateral Accessory Mental Foramen MF: Mental Foramen, AMF: Accessory Mental Foramen.



Fig. 2: Showing the Bilateral Accessory Mental Foramen MF: Mental Foramen, AMF: Accessory Mental Foramen.



DISCUSSION

Incidence of accessory mental foramina was different in various populations in the world, Sri Lankans it was 8.33%, Asian Indians 6.62% [3],

Chinese 5% [4] and in Turks 6.5% and bilateral 0.5% [5], 2.6% in French, 1.4% in American Whites, 5.7% in American Blacks, 3.3% in Greeks, 1.5% in Russians, 3.0% in Hungarians, 9.7% in Melanesians.

In Indian populations occurrence of this variation was highly varies and distance between AMF and usual MF also established. According to Sumit Gupta et al [6] AMF was present in 8 out of 120mandibles and incidence was 6.6% unilaterally, Average distance between AMF and MF was 4mm. According to Pokhrel R et al [7] Accessory mental foramen was found in 7.22% sides, bilaterally in 4.81% and was more common in males and in the right side. Singh, R et al [8] reported Accessory mental foramen was present in 8 percent on left side while on right side, it was 5 percent among 100 skulls. Average distance between MF and AMF was 0.67mm lateral to MF. According to Toh et al [8] distance between the MF and AMF in three cadavers were 0.67 mm, 2.1 mm and 5.74 mm. Humberto Ferreira Arquez [9] noticed the distance between the mental foramen and accessory mental foramen was 5 mm posterior and inferior to mental foramen. Raju Sugavasi et al [10] reported one case of bilateral AMF in Indian population.

In the present prevalence study in one case AMF located superior to the usual MF around 4mm distance on right side and 5mm on left side and in second case AMF was seen 4mm behind the usual MF on right side and 4.5 mm left side. This study concluded that the presence of bilateral accessory mental foramen is very rare and incidence is very less in Indian population.

CONCLUSION

One should know the AMF and AM nerve to accomplish the complete effect of anesthesia if the mental nerve block and knowledge of it can attentive the dental surgeons to avoid nerve injuries while performing periodontal or endodontic surgeries. So the present study may useful to dental surgeons and anesthetists.

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REFERENCES

- [1]. Udhaya K, Saraladevy KV, Sridhar J. The morphometric analysis of the mental foramen in adult dry human mandibles: A study on the south Indian population. *J Clin Diagn Res.* 2013;7(8):1547-1551.
- [2]. Naitoh M, Hiraiwa Y, Aimiya H, Gotoh K, Arijji E. Accessory mental foramen assessment using cone-beam computed tomography. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2009;(107):289-294.
- [3]. Prabodha LBL, Nanayakkara BG. The position, dimensions and morphological variations of mental foramen in mandibles. *Galle Med J.* 2006;11(1):13-5.
- [4]. Guo JL, Su L, Zhao JL, Yang L, Liang D, Li Y, et al. Location of mental foramen based on soft- and hard-tissue landmarks in a Chinese population. *J Craniofac Surg.* 2009; 20(6):2235-7.
- [5]. Kalender A, Orhan K, Aksoy U. Evaluation of the mental foramen and accessory mental foramen in Turkish patients using cone-beam computed tomography images reconstructed from a volumetric rendering program. *Clin Anat.* 2012;25(5):584-92.
- [6]. Sumit Gupta, Jagdish S. Soni. Study of anatomical variations and incidence of mental foramen and accessory mental foramen in dry human mandibles. *National journal of medical research.* 2012;2(1):28-30.
- [7]. Singh, R. & Srivastav, A. K. Study of position, shape, size and incidence of mental foramen and accessory mental foramen in Indian adult human skulls. *Int. J. Morphol.*, 2010;28(4):1141-1146.
- [8]. Toh, H.; Kodama, J.; Yanagisako, M. & Ohmori, T. Anatomical study of the accessory mental foramen and the distribution of its nerve. *Okajimas Folia Anat. Jpn.* 1992;69:85-8.
- [9]. Humberto Ferreira Arquez. Accessory nerve and mental foramen. *int j pharm bio sci* 2014;5(4):739-744.
- [10]. Raju Sugavasi, Sujatha.M, Indira Devi.B, Sirisha.B. Bilateral accessory mental foramen a case report. *Ijcr.* 2012;04(05):108-110.

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