Original article

Dental intervention perspective: Anatomical Variation of Mental and Mandibular Foramen in Selected Malay Patients

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Abstract:

Background: Anatomical structures of head are essential to carry out almost all of dental procedures. In this regard to study the variation of mental and mandibular foramens are prerequisite for the intervention of clinical dentistry. The study was undertaken to determine the anatomical position of the mental foramen (mF) and mandibular foramen (MF) and their relationship. Methods and Methods: Eighty-seven selected Malay patients were examined at Universiti Kebangsaan Malaysia Dental Clinics in which 34 were male and 53 were female. The size and position of the mF in relation to tooth position were recorded. The size and position of the MF were recorded based on the horizontal and vertical dimensions consisting of reference point’s namely anterior and posterior border of ascending border of ramus as well as mandibular notch and lower border of mandibular ramus, respectively. Results: The mF was found to be most in line with second premolar (99%) on both sides in both sexes. The size of mF was larger on the right side and in male (p<0.05). The size of MF on the right and left side for both male and female did not differ significantly (p>0.05). The mean distance between the MF to occlusal plane was 10mm (SD ±1.56) for both sides. There was no significant difference between mF and MF position (p>0.05). Conclusion: In the Malay population, anatomical relationship and variation between mental and mandibular foramen were not found to be significant. The information would be useful in dental intervention of the clinicians.

Keywords: mental foramen, mandibular foramen, anatomical variations, Malays, dental intervention.

Introduction

Knowledge of anatomical structures of head are essential to carry out almost all of dental procedures and to achieve profound anesthesia. Anatomical position of mandibular and mental foramen play an important role in dentistry and these structures might be the same, slightly different, or totally different from one person to another. This knowledge would help in implant placement, periradicular surgery, root resection, pre-prosthetic surgery, pre-orthodontic surgery, pre-restorative surgery and many more. This can reduce post-operative complications, most likely temporary or permanent nerve injury. Nerve injury is very important yet crucial, especially if results in permanent damages, there is no way that the damaged nerve to heal by itself due to the nature of nerve tissue, known that it cannot undergoes regeneration. Thus, by doing this study, hopefully it can improve this limitation and provide efficient dental procedures together with minimizing the possible complication of nerve injury. Therefore, the study was undertaken to determine the anatomical position of the mental foramen and mandibular foramen and their relationship of Malay population presented at Dental Clinic of the Faculty of Dentistry and Clinic of Oral and Maxillofacial Surgery, Universiti Kebangsaan

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