Effect of Ageing Towards Location and Visibility of Mental Foramen on Panoramic Radiographs

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Abstract
Mental foramen is an opening of the mental canal onto the lateral surface of the mandible. In this pilot radiographical study, in Malay population the effects of ageing towards the location and visibility of the mental foramen were determined. Most of the mental foramina were found to be located inferior to the apex of the second premolar. Non-visibility of the foramen was greatly increased in patients aged 50 years and above (Pearson Chi-square; p = 0.00). This finding may provide a guide to dental surgeries in Malay patients of different age groups. [Singapore Dent J 2010;31(1):15–19]

Key Words: mental foramen, radiograph, ageing

Introduction
Mental foramen is a funnel-shaped opening of the mental canal onto the lateral surface of the mandible. The mental nerve that exits this foramen provides sensation to the ipsilateral mucosa around the premolar regions as well as the mandibular lip and chin. Any injury to this nerve may result in various degrees of paraesthesia to the mandibular lip of the same side. Proper knowledge of the accurate location of the mental foramen is of great clinical significance, especially when performing dental alveolar surgery in this anatomical region.

Many anatomical and radiographical studies have been conducted for determining the position of the mental foramen. However, these studies have focused mainly on Caucasian populations, and their findings may not be applicable to the Asian populations. The few studies undertaken on Asian populations reported that the most common location for the mental foramen is in the line of the second premolar. This is in contrast with the reports of mental foramen being located in between the first and the second premolars of the Caucasian populations. Therefore, these race-based studies are important, as they provide a guide on the possible location of mental foramen while treating patients of different races.

Fishel et al. studied the vertical position of the mental foramen in relation to the apex of the second premolar. They found that about 60% were located superior to the level of the apex of the second premolar. Their result was in contrast with that reported by Phillips et al. who found that the most common position was below the apex of the second premolar.

The location of the mental foramen has been reported to move upwards closer to the alveolar crest in elderly edentulous patients due to bone resorption. However, no studies have looked into the effects of ageing towards its location and visibility on panoramic radiographs of fully dentate patients.

The purpose of this study was to determine the radiographical location of the mental foramen in a group of Malay subjects. The effect of ageing on the location and visibility of the mental foramen on dental panoramic radiographs was also studied. The null hypothesis is that age does not affect the