

Proximity of roots of maxillary posterior teeth to maxillary sinus floor in a sample of Pakistani population using Cone Beam Computed Tomography

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Abstract

The accurate relationship of maxillary sinus floor to roots of maxillary posterior teeth is important in dentistry especially in complex procedures. Failure of its evaluation may lead to sinus complications. CBCT is better for precise evaluation of such anatomical structures.

To evaluate the vertical relationship of the roots of maxillary posterior teeth with maxillary sinus floor in a sample of Pakistani population using cone-beam computed tomography (CBCT) and to relate it with gender and compare right and left sides.

ERC approval was obtained prior to commencement of the study. 60 CBCT scans of individuals aged between 15-65 years were evaluated. The cross-sectional images were reconstructed using GALAXIS version 1.9 and roots classified into Jung's classification for proximity to maxillary sinus floor. The distance in mm was measured using the software.

Descriptive statistics for Jung's classification was computed. Paired t-test was applied to evaluate bilateral symmetry and difference in gender.

Results

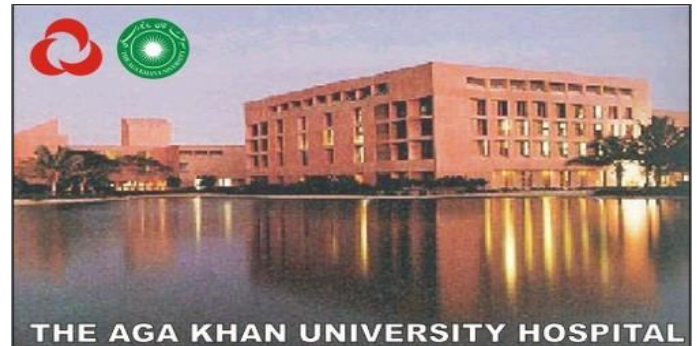
In 60 CBCT scans, a total of 1066 roots were evaluated. The most common maxillary tooth root in Type III group of Jung's classification is the mesio-buccal root of the 2nd molar followed by palatal roots of 1st molar with the shortest mean distance of 0.44 ± 3.05 mm and 1.58 ± 4.01 mm respectively. The maxillary tooth root most frequent in Type I group is buccal root of 1st and 2nd premolars with mean distance of 8.15 ± 6.65 mm and 7.38 ± 6.60 mm respectively. No statistically significant difference was found between gender and sides. ($p \geq 0.05$).

Conclusion

In a sample of Pakistani population, among the roots of the maxillary molars, the most common root protruding in the sinus, was the mesio-buccal root of the 2nd molar followed by palatal roots of 1st molar. The most distant maxillary tooth root from the sinus was the buccal root of 1st and 2nd premolars.

Keywords

Maxillary roots, CBCT, maxillary sinus, Jung's classification.



Biography:

Dr. Momina did her B.D.S. from Dow University of Health Sciences (DUHS) in 2016. She was gold medalist and best graduate of batch 2016. She did her housejob and then FCPS part 1 in November 2017. She got her residency in Operative Dentistry program in Aga Khan University Hospital from January 2018. She is currently doing some researches. Two literature reviews and one case report is submitted for publication in journals.

Speaker Publications:

1. Momina Anis Motiwala. Oral health problems in type 1 diabetic children]. *Przegl Lek.* 2007;64(2):78-80
2. Momina Anis Motiwala. Current Therapeutic Strategies in Diabetic Foot Ulcers. *Medicina (Kaunas).* 2019 Oct 25;55(11)
3. Momina Anis Motiwala. Is there a relationship between oral health and diabetic neuropathy? *Curr Diab Rep.* 2015 Nov;15(11):93

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