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Morphological Variation of Nasopalatine Canal

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Abstract

Aim: To assess the morphological variation of Nasopalatine canal in relation to age and gender.

Objectives

1. To analyze the morphology of the NPC.
2. To assess the correlation between the gender and morphology of the canal.
3. To assess the correlation between age and length of the canal.

Method

We observed 50 CBCT scans of patients which was obtained from the Oral Radiology Department of Buddha Dental Science and Hospital, Patna. The scan was taken from using I-CAT 17-19 machine and vision software. The study Comprises of 50 maxillary scan taken in I-CAT CBCT machine in 50 patient of age Range was 15-75 years. CBCT scans from the patients with NPC pathology or impacted teeth in the region were excluded from the present study.

Result

Nasopalatine has four different morphological shapes was scan in sagittal Section and most common was cylindrical shape was found in both males and Females. And least common shape was found to be hourglass shape in both

Gender. While age increasing the length of NPC was decreasing. In men length of the canal was found to be longer.

Conclusion: This study highlights importance of NPC morphology during surgical procedures such as implant procedure.

Introduction

The Nasopalatine canal (NPC), also known as the anterior palatine canal. It is a long slender passage that present in the midline of the anterior maxillary region

and it connects to the palate to the floor of the nasal cavity.(1) Canal continues in the oral cavity as a single incisive foramen through posterior to the central incisor teeth and in the nasal cavity as the foramina of Stenson, which were two in number. It contains the Nasopalatine (incisive) nerve and Nasopalatine artery, as well as fibrous connective tissue. A proper image of the incisive canal and foramen before any surgical procedure such as implant placement in the anterior maxillary region is highly significant (2). In anterior maxillary region patients vey consider for esthetic. Before placement of dental implant NPC should be properly evaluated.(2,3) Advantages of CBCT was high resolution and elimination of superimposition .CBCT has facilitated the precise three

Dimensional evaluation of bone quantity and NPC canal position in the anterior maxillary region.(4) The present study is aimed to assess the morphological variation of Nasopalatine canal in relation to age and gender by using CBCT.

Material and Methods

This is a retrospective, randomized observational study. CBCT scan enrolled at a center in Patna, India. The study material included 50 CBCT scans of patients that included the entire NPC in all three planes. Age range was 15-75 years.CBCT scans from the patients with NPC pathology or impacted teeth in the region were excluded from the present study. The scans are obtained from using ICAT-19 machine and Vision software (Imaging Science International) CBCT scans will be acquired with ICAT 17-19 Cone Beam 3D Imaging machine operating at 120kvp,37.07mAs with 0.25mm voxel size and a field of view of 16x6cm maxilla.

Evaluation of Images

Noticed an increases in NPC length with advancement of age.

Conclusion

The result from my present study highlight the anatomic variability of the NPC in relation to several limit . The result from this study suggest that gender is an important factor that can affect the characteristics of the NPC and the amount of bone anterior region.The shape of the canal and its anteroposterior dimensions are the most significant parameters for placement of implants in the maxillary anterior region.

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