



PRESENCE OF TWO ROOTS AND TWO CANALS IN MANDIBLE CANINE: A RARE CASE REPORT.

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ABSTRACT

The anatomical variations in tooth roots are not new among dental practitioners but in some cases requirement of advance radiographic modalities help in the real time data analysis and recommending best possible treatment to the patients. Root morphologies are not completely fixed they sometimes varies in patients to patients some cases findings can go unrecognized and later lead to compromising with the teeth.

KEYWORDS : CBCT, Anatomical Variations, Rare Findings, Canine.

INTRODUCTION

Morphological variations are important to understand and acknowledge in dental practice, many of us believe that human tooth anatomy is fixed a given tooth will contain a specific number of roots and/or canals.(1) Therefore, the clinician should be aware of any anatomical variations which may alter the prognosis for the treatment of oral hard tissue.(2) Generally, mandibular canines contain a single root and canal. The occurrence of two roots and two canals is a rare entity ranging from 1 to 5%. (2) although two roots and two canals are the rare finding in mandibular canine but radiographs plays important role in the diagnosis and treatment of all those rare cases. The following case reported as accidental and rare finding in the department of radiology.

Case Report

A 15 year old girl came to Hitkarini Dental college & Hospital, Jabalpur (M.P) in the department of oral medicine & radiology with the chief complaints of missing tooth and misaligned teeth after clinical examination permanent mandibular canine in third quadrant was missing and patient is advised for panoramic radiograph [Figure 1] which suggested that canine in the third quadrant is not present in the line of occlusion and some root morphological changes were observed to confirm the changes 3D CBCT(cone beam computer tomography) were advised [figure2]. As shown in CBCT imaging two roots were present in the mandibular permanent canine in third quadrant both mesial and distal roots were dilacerated and presence of two canals were also observed. The canals configuration according to Vertucci canals classification is type V (long pulp chamber with two root canals).

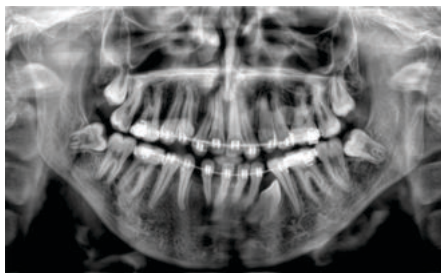


Figure 1 Panoramic radiograph



Figure 2. 3d CBCT

DISCUSSION

Morphological variations in canine are not very common. Usually mandibular canines are monoradicular.(2) two root, three root, & additional canals are rare findings in canines. So the complex nature of root morphology is important to understand and diagnosis with the help of radiographs play important role, because if additional roots were not detected it will further leads to failure in treatments like root canals and extractions.(1) in the present case 3D CBCT modality help in the proper diagnosis before starting any major treatment. The incidence of two root canals in single rooted mandibular canine teeth has been reported to be up to 6.25%. (3) In the present case two roots and two canals were reported in female patient. The incidence of two canals in mandibular canine was reported in female more than male. (4) if using conventional radiographic technique to take periapical radiographs it should be taken by more than one angle to observed any variation in tooth morphology. If possible advance radiographic modality like CBCT images are very helpful for the diagnosis of morphological variations.(5)

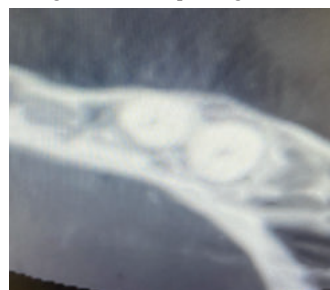


Figure 3. CBCT Axial Section Two roots mesial & distal in 33 teeth



Figure 4. CBCT Axial section showing two canals in 33 teeth

Conventional radiographs are back bone of dentistry but due to having limitations of 2D imaging, tube shift or commonly known as , 3D modalities are gaining popularity among general dentists, it added new dimension for image analysis as well as pin point resolution for the accurate diagnosis and treatment. In present case 3D CBCT image helps to provide sufficient data for the observation of tooth morphological variations.

CONCLUSION

Now a days morphological variations are quiet commonly observed which sometimes go undiagnosed, in mandibular canine the presence of two roots and two canals are a rare finding but with the help of advance radiographic modalities like CBCT provide 3D viewing with different angles and provide more accurate diagnosis and help in the correct management of teeth having root morphological variations. Hence whenever in doubt about morphological changes tube shift technique and 3D CBCT imaging are best available methods to use. Correct diagnosis is key to every treatment in medical and dental practices.

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