INTRODUCTION

One of the most important objectives of root canal treatment is the debridement of bacterial colonies and necrotic debris from root canal space. However the failure of endodontic treatment is attributed to many reasons such as diagnostic errors, persistence of infection, error in cleaning and shaping of root canal, instrument separation, poor restorations and undetected extra canals. Therefore thorough knowledge of internal and external anatomy of teeth is necessary for adequate endodontic treatment (Thakur A et al 2016). Anterior teeth may have abberent variations in number of roots and root canals. However there is 0.6% incidence of extra canal in maxillary central incisors. (Cleghorn B M et al 2008) This case report describes the clinical significance and endodontic treatment of maxillary central incisor with two root canals.

CASE REPORT: A 35 year old female patient came to the Department Of Conservative Dentistry and Endodontics of Maharaja Ganga Singh Dental College and Research Center, Sri Ganganagar, Rajasthan, with chief complaint of intermittent dull pain in relation to upper front teeth since 2 months. Patient reports of endodontic treatment done elsewhere in relation to the maxillary left central incisor and composite restoration in relation to maxillary right central incisor 6 months before. The teeth were tender on percussion.
were removed using H files and canals were irrigated with saline and 2.5% sodium hypochlorite solution and saline, the tooth was then prepared by step back technique using ISO 2% hand K files upto master cone of size 60 and radiograph taken. Followed by intra canal Calcium Hydroxide intracanal dressing. Patient recalled after three weeks. Master cone radiograph were taken after both the teeth were cleaned and shaped. The root canals were dried with paper points and obturated with standardized gutta percha cones with lateral condensation technique using resino seal sealer. Followed by post obturation restoration with Composite and radiograph.

**DISCUSSION**

The case reported here is an unusual case of a maxillary central incisor with two roots and root canals located buccally and disto palatally. Most endodontic and anatomy texts describe the human maxillary central incisors with single root and single canal. There were few case reports describing an additional canal in maxillary central incisors with single root and single canal. There were few case reports describing an additional canal in maxillary central incisors with single root and single canal. There were few case reports describing an additional canal in maxillary central incisors with single root and single canal. Hertwig’s epithelial root sheath and may adversely affect the outcome of endodontic therapy. (Thompson B H et al 1985, Anathanarayan K et al 2012). Even though the maxillary central incisors are considered to be the least complicated tooth for endodontic treatment, clinicians need to be aware of unexpected root canal morphology when performing root canal therapy. As Hess in 1925 first reported maxillary central incisors presenting single root and root canal in 100% cases, followed by studies conducted by De Deus and Vertucci also reported similar findings. And has been the same in majority of cases. However case reports of maxillary incisors with two roots and root canals were reported by Reid et al 1993, Genovese et al 2003, Lin W C et al 2006, Kashara et al 1990, Kottoor J et al 2012, Marcelo S C et al 2013 (Marcelo Santos Coelho et al 2013). Mangani et al 1994 has reported a case of maxillary central incisor presenting with dens invaginatus and four root canal. Root canal configuration Vertucci type IV (2-2) and type V (2-1) are the most common accessory anatomical variation reported in single and double rooted maxillary anterior teeth (Ahmed et al 2015). Vertucci and De Grood, Cunningham reported that a considerable number of failures could be assigned to anatomical variations, such as the
presence of unusually root canals. (Vertucci 1984) (De Grood et al 1997) Thorough knowledge including pre and intra operative awareness of landmarks associated with normal morphology as well as aberrant anatomy of root and root canal, internal and external tooth morphology is essential prerequisite for successful root canal therapy as then there will be less chances of missed root or canals during treatment. (Vertucci et al 2005, Cantatore et al 2006). Diagnostic methods such as accurate preoperative radiographs, straight and multiple angulated techniques, examination of pulp chamber floor with endodontic explorer, troughing grooves with ultrasonic tips, staining the chamber with des, champagne bubble test and visualization bleeding points to use of endodontic microscopes may be useful in providing clues to the number of roots and addition canals that exist and morphological variations in pulpal anatomy must be considered before treatment onset.. (Klein et al., 1997) (Arora et al., 2015)

Conclusion

There are no limits for morphological variations of teeth according to literature and the most routine case might deviate from usual. Hence clinicians must be careful to nail it. Diagnostic methods are the third eye that can reveal the variations. The entire volume of the root canal space should be thoroughly cleaned and filled which includes additional canals inability to do so leaves a source of persistent infection, narrowing clinical success.

REFERENCES

Frank J. 2005. Vertucci Root canal morphology and its relationship to endodontic procedures Endodontic topics; 10(1)March 3-29

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