

Management of an Extraordinarily Long Mandibular Incisor: An Endodontist's Perspective

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Abstract

Aberrations in length of teeth in permanent dentition is not uncommon. However, there are certain teeth, which when found to be extraordinarily long or short, must be reported so as to make the dental professionals aware of such anomalies. This case report reveals the presence of an extraordinarily long mandibular lateral incisor (29 mm long) and its endodontic management thereafter. A case report like this can change the way the dentists presume the length of mandibular incisors.

Keywords: Mandibular Incisors; Extraordinary; Endodontics; Radiograph

Introduction

From the time, radiographs have become common in dental practice, the dental professionals have been revealing the different anomalies of permanent teeth. Such information has always been of immense use to the fellow professionals' world over in terms of having an open mind regarding the variation from the normal pattern. Not only such knowledge helps in preventing from misdiagnosis, but also prepares the readers of possibility of identifying similar cases in their routine dental practice and thereafter their easy management. While it has been a common finding to observe a long Maxillary or Mandibular Canine, the literature is yet to reveal the finding of an extraordinarily long Mandibular incisor. This case report presents the identification of an extraordinarily long mandibular lateral incisor (28 mm long) and thereafter its endodontic management.

Case report

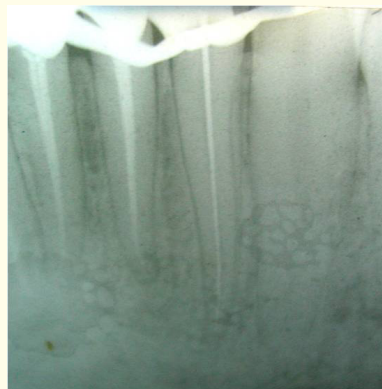
A 21-year-old female reported for the management of pain in her mandibular lateral incisor. The clinical examination revealed mesial and distal caries in her left mandibular incisor (Figure 1). The Intraoral periapical radiograph revealed carious exposure in the same tooth (Figure 2).





The radiograph (Figure 2) also revealed something unusual, which was the fact that the concerned tooth looked abnormally long as compared to its adjacent central incisor and its contralateral lateral incisor, which were already endodontically treated. This lateral incisor also seemed to be of same length radiographically as the adjacent canine. Since the diagnosis of this tooth was finalised to be irreversible pulpitis from the detailed history of pain and its radiographic findings, the endodontic therapy was planned.

Access opening was made and working length was measured by the radiographic method (Figure 3) along with the use of Electronic Apex locator (Canal Pro, Coltene). The length was confirmed to be 29 mm which is very unusual for the length of a mandibular lateral incisor. Root canal preparation was done using the hybrid technique which comprised of using both the hand files as well as the new generation Controlled memory rotary files (Hyflex, Coltene). Master Cone fit (0.04 taper 25 size) radiograph was taken for verification (Figure 3) and obturation was done (Figure 4) using the Gutta Percha Points and Gutta Flow 2 Sealer (Coltene).



Discussion

Endodontics is one branch of dentistry in which one can expect enormous variations owing to a wide range of morphological patterns, human teeth exhibit. It, therefore becomes essential for the dental professionals to be prepared for encountering such extraordinary cases and deal with them efficiently. The variations can be either in the crown portion or in the root portion of teeth [1]. Whatever the case may be, the challenge comes only when the tooth needs endodontic intervention.

There is a plethora of research and case reports getting published every now and then exhibiting accessory roots and root canals [2-6]. Some of these reports also reveal successful endodontic management of such cases [7,8]. These reports guide the fellow dentists so as to how to manage such like cases efficiently and not to defer them.

The case being discussed here is extraordinary because of the very long length of mandibular lateral incisor which was calculated to be 29 mm. This figure is much more than the normal limits for this tooth which is 23 - 24 mm.

The treatment plan was not grossly altered because of the long length. The only care taken was to use highly flexible files so as to avoid the formation of any ledge and subsequently lose the working length. After establishing the Glide path manually, using hand 10 K file, K flex files were used followed by use of Hyflex CM files (Coltene) with the standard protocol. The supreme flexibility of Hyflex files was made full advantage of in this case.

Managing extraordinary cases in Endodontics is quite challenging and we should be prepared to handle these, utilizing our knowledge of basic morphology of root canal system but with an open mind about possibility of variations.

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