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下颌第二前磨牙牛牙症伴 C 型根管的显微治疗一例

张文 张婧

【摘要】 牛牙症、C型根管在下颌第二前磨牙的发生率均极低。本文报道1例罕见下颌第二前磨牙牛牙症伴C型根管病例,展示锥形束CT影像学分析和显微根管技术在该病例诊治中的联合应用,为该特殊类型根管的临床治疗提供新思路。

【关键词】 下颌第二前磨牙; 牛牙症; C型根管; 显微根管治疗

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【Abstract】 The incidence rate of taurodontism or C-shaped root canal in mandibular second premolar is extremely low. In this article, we reported a case of mandibular second premolar with taurodontism and C-shaped root canal. The combined use of cone beam computed tomography analysis and microscopic root canal technique provides a novel insight for clinicians in treating teeth with taurodontism or C-shaped root canal in daily practice.

【Key words】 Mandibular second premolar; Taurodontism; C-shaped root canal; Microscopic root canal treatment

牙齿根管的解剖形态是影响根管治疗效果的重要因素。研究指出,下颌第二前磨牙多为单根(99.6%),极少数为双根(0.3%)和三根(0.1%);其单根管率为91%,而双根管及多根管的发生率为9%^[1];但极少见到C型根管^[2]。牛牙症(taurodontism)是Hertwig上皮根鞘未能在适当的水平内陷而导致的牙齿形态异常,主要表现为增大的牙髓腔和变短的牙根^[3]。依据牛牙症指数(taurodontism index, TI = 髓腔垂直高度/髓室顶最低点至最长根管的根尖处距离 × 100%)的大小,将牛牙症分为轻度(20.0% ~ 29.9%)、中度(30.0% ~ 39.9%)和重度(40.0% ~ 75.0%)。牛牙症多见于磨牙,其在下颌第一前磨牙发生率仅为0.4%,而在下颌第二前磨牙的发生率则更低^[4]。本文报道1例罕见下颌第二前磨牙重度牛牙症伴C型根管病

例,展示锥形束CT(cone beam computed tomography, CBCT)影像学分析和显微根管技术在该病例诊疗中的联合应用。

病例资料 患者,男,28岁。主诉:右下第二前磨牙自发痛1周。现病史:1周前,右下第二前磨牙因自发痛在外院就诊,但其牙齿根管形态复杂,后转入中山大学附属口腔医院。患者现有自发痛、咀嚼痛,要求诊治。既往史:自述体健。检查:45远中殆面氧化锌充填物。冷(±),叩(+),松(-),牙龈无红肿,未探及牙周袋。X线片:45远中殆面充填物及髓,髓腔高大,髓底低,根管中下段为复杂根管(图1A)。CBCT检查:(1)牙齿长度约为17.8 mm,髓室高度约11.7 mm,髓底至根尖长度约6.1 mm。TI ≈ 65.7%,属重度牛牙症(图2A);(2)远中殆面充填物,牙本质壁薄(图2B);(3)根管中上段横截面为C形(图2C),中下段演变为3个根管(图2D),下段3个根管更加细小(图2E),根尖区根管不明显(图2F)。诊断:45重度牛牙症、牙髓炎。治疗:45局麻,置橡皮障(图3A)。去尽氧化锌,开髓。显微镜

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下观察根管口,确定为C型根管(图3B)。8#C锉分2次完成根管疏通,发现根管下段为复杂根管,氧化锌暂封,拍X线片(图1B)。根尖定位仪测量根管工作长度,近中(M)根管17mm,远中(D)根管16mm,颊(B)根管17.5mm(图1C)。用10~15#K锉疏通根管,到达工作长度。ProTaper镍钛根管锉S1、S2、F1和F2逐一预备。17%乙二胺四乙酸和2.5%次氯酸钠溶液交替冲洗,超声工作尖荡洗根管,吸干根管水分,试尖(图1D)。以AH Plus根管糊剂+大锥度牙胶+SybronEndo热牙胶机,垂直加压连续波法根充(图1E)。显微镜观察根管口处牙胶充填致密(图3C)。磷酸锌水门汀垫底,Z350树脂

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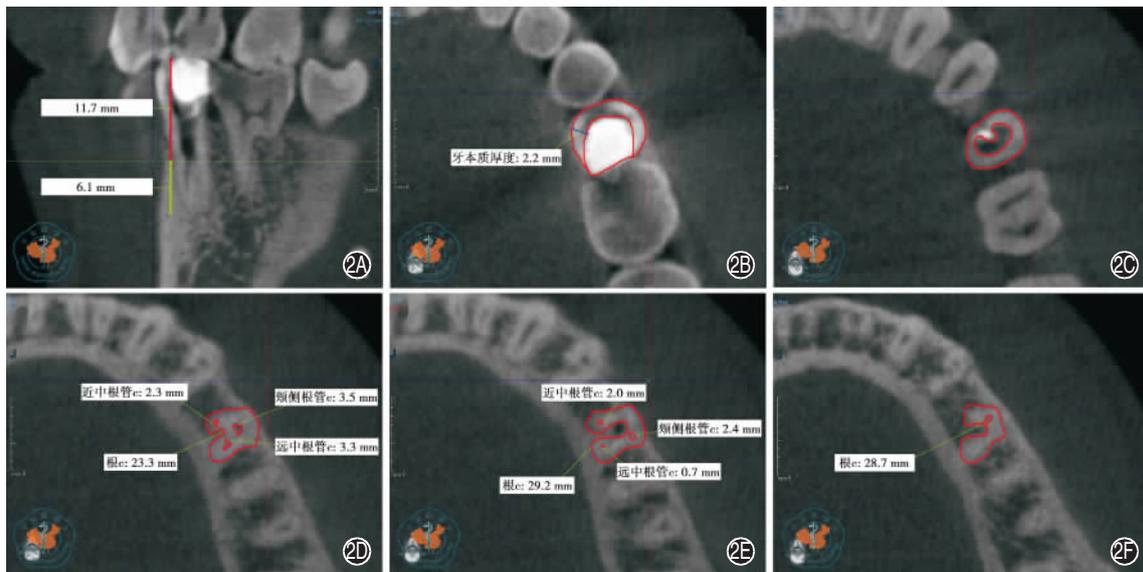
讨论 根管形态的诊断对于顺利完成根管治疗,获得满意的愈后至关重要^[5]。下颌第二前磨牙发生牛牙症、C型根管的概率低。

牛牙症在因纽特人、阿留申人、蒙古人、欧洲人、斯堪的纳维亚人、非洲美国人和中国人等均有发生^[3]。其发生率在中国女性明显偏高,中国男性发生率较其他人种无明显差异。临床检查时,牛牙和正常牙的冠部形态没有显著的差别。因此,X线片检查是发现并诊断牛牙症的主要方法。研究指出,牛牙髓腔高大,根管口位置根向移位且变异程



注:图1A为初始X线片显示右下第二前磨牙根分叉位置低,近中及远中均有根管影像,提示根管解剖形态复杂;图1B为开髓后建立直线通路,但无法确定C型根管具体解剖形态,ZOE暂封根管口后,行CT检查;图1C为使用8#C锉完成根管探查,到达工作长度;图1D为根管预备至ProTaper F2,使用牙胶试尖,颊侧根管(B根管)牙胶距离工作长度仍欠1~2mm;图1E为重新预备B根管,以AH Plus根管糊剂+大锥度牙胶+SybronEndo热牙胶机,垂直加压连续波法进行根充

图1 右下第二前磨牙根管治疗X线片



注:图2A为CT片显示右下第二前磨牙根分叉位置低,近中及远中均有根管影像,提示根管解剖形态复杂;图2B为开髓后,冠部牙本质壁厚度约2mm;图2C为根管中上段横截面形态为C形;图2D为根管中下段分为3个根管;图2E为根管下段根管的周长较中下段有所减小;图2F为根管根尖部的根管影像不明显;c:周长

图2 右下第二前磨牙CBCT分析



注:图 3A 为放置橡皮障后的口外片;图 3B 为开髓后显微镜视野图($\times 3.8$);图 3C 为根管充填后显微镜视野图($\times 3.8$)

图 3 右下第二前磨牙根管治疗过程照片

度较大,为探查根管、预备根管、充填根管及髓室增加了难度^[6]。

近年来研究发现,下颌第二前磨牙的根管系统除单根管、双根管、多根管等分型以外,还存在 C 型根管^[2,7]。C 型根管是指:(1)具有 180° 及以上弧度的单个条带状根管口;(2)根管口下部延续 C 型或演变为 3 个及以上根管的系统^[7]。C 型根管多见于磨牙和第一前磨牙,但在第二前磨牙极为少见,其诊治仍是目前研究的热点和临床的难点。X 线片是诊断 C 型根管的重要方法,但仅仅通过 X 线片仍无法对根管融合与演变的情况进行有效的分析。CBCT 在牙科中的应用为诊断 C 型根管提供了一个新思路^[8],有研究使用 CBCT 分析下颌第二前磨牙,发现其 C 型根管的概率为 0.4% ^[9]。

在本病例中,下颌第二前磨牙的牛牙症和 C 型根管同时出现,实属罕见。在治疗过程中,笔者分析 X 线片和 CBCT 提供的信息,在牙科手术显微镜下,使用小号根管锉探查根管口的形态和走向。采用化学预备、ProTaper 机用镍钛预备和超声荡洗三者相结合的方法充分清理根管系统。应用连续波热牙胶充填技术充填根管,以期获得长期良好的疗效。

综上所述,尽管下颌第二前磨牙发生牛牙症、C 型根管的概率低,但在临床的诊疗过程中,对于每个病例都应认真地进行临床检查,配合 X 线片、CBCT 和显微镜观察对根管的形态进行诊断。这将有助于早期发现复杂根管,了解根管解剖特点,顺利完成根管治疗。

张文,张婧. 下颌第二前磨牙牛牙症伴 C 型根管的显微治疗一例[J/CD]. 中华口腔医学研究杂志:电子版,2014,8(3): 249-251.

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