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双线排龈法在烤瓷冠修复牙体缺损中的临床应用 *

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摘要 目的:探讨双线排龈法在烤瓷冠修复牙体缺损中的临床应用效果,为临床提供参考。**方法:**选择 2014 年 3 月至 2016 年 3 月来我院拟行烤瓷冠修复的 96 例患者,按照患者入院顺序交替分为观察组和对照组,每组 48 例。观察组 48 例(56 颗牙)采用双线排龈法,对照组 48 例(52 颗牙)采用单线排龈法,观察和比较两组的排龈效果及随访 24 周的基牙与游离龈是否完全排开,龈沟宽度是否合适,牙体预备后肩台的边缘是否清晰、连续,印模肩台是否清晰、连续,有无气泡,模型是否清晰、光滑,牙龈有无渗血等。**结果:**观察组基牙与游离龈排开不全、印模肩台不清晰不连续或有气泡、模型不清晰不光滑、牙龈渗血的发生率均显著低于对照组(*P<0.05*)。修复后 24 周,两组的修复体边缘隐蔽性比较差异无统计学意义(*P>0.05*),观察组 0 级牙数为 52 颗(92.9%),对照组 0 级牙数为 41(80.8%),观察组的牙周组织情况明显优于对照组(*P<0.05*)。**结论:**在前牙烤瓷冠修复中应用双线排龈法的排龈效果较单线排龈法更好。

关键词:双线排龈法;单线排龈法;烤瓷冠;牙体缺损
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Clinical Application of Double Line Gingival Retraction Method for the Restoration of Tooth defect with PFM Crown*

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ABSTRACT Objective: To investigate the clinical application of double line gingival retraction method for the restoration of tooth defect with PFM crown, and provide references for the clinic. **Methods:** From March 2014 to March 2016, 96 cases of patients undergoing PFM in our hospital were selected and divided into the observation group and the control group according to the order of admission with 48 cases in each group. The observation group (56 teeth) was given double retraction, while the control group (52 teeth) was given single retraction, the teeth gingival retraction effect and situation of gingival line, gingival sulcus width, tooth after the shoulder edge, shoulder impression, bleeding gums were compared between two groups. **Results:** The incidence of unequal abutment and free gingival, unclear discontinuous or bubble-shaped impression shoulder, not clear nor smooth model and gingival blood oozing in the observation group were significantly lower than those in the control group (*P<0.05*). At 24 weeks after repair, there was no significant difference in the marginal concealment of the restorations between the two groups (*P>0.05*), the number of teeth with grage 0 in the observation group were 52 (92.9%) and 41 (80.8%) in the observation group and control group, which was significantly better in the observation group than that of the control group (*P<0.05*). **Conclusion:** Double line gingival retraction method was better for the anterior teeth porcelain crown restoration than single line gingival retraction method.

Key words: Double line gingival retraction method; Single row gingival retraction method; PFM crown; Tooth defect
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前言

牙体缺损指的是牙体的正常解剖结构、形态、咬合以及其邻牙和牙周组织形态的关系出现异常,常与龋齿、磨损、外伤、楔状缺损或先天发育不良等因素有关,其中主要的诱发因素是龋齿[1-3]。烤瓷牙作为一种理想的修复体在牙齿修复中受到广泛的应用,是用多种耐磨损、强度大、无不良反应的材质制造修复体以修复破损的牙体,修复过程包括排龈、制模、比色板比色、粘连暂时冠桥等[4,5]。其中,排龈可提供优良的修复环境,在龈沟底部压制牙龈线,可减少修复损伤,在前牙缺损修复过程中通过排龈技术使牙体预备时达到龈下合适深度, 可获得一个完整、清晰的印模,这是保证一个修复体能够达到制作精密、美观

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逼真的先决条件[6,7]。

修复中,牙龈损伤易造成牙龈出血,干扰操作,借助牙龈线提前备好止血药可以有效的降低牙龈出血的发生率。目前,排龈方法较多,包括排龈线、排龈膏、推龈器、激光排龈法等[8-10],而排龈线因其成本低、疗效较好的特点在临床上的应用比较普及[11-13],分为单线排龈法和双线排龈法[14]。从临床工作中看,双线排龈法的优点较单线排龈法更突出,但真正的临床研究却较少。为此,本研究探讨了双线排龈法在烤瓷冠修复牙体缺损的临床应用价值,以期为临床提供参考。

1 对象和方法

1.1 研究对象

纳入标准:① 口腔卫生良好,无牙龈炎症;② 牙冠高度足够用于固位治疗[15];③ 无全身系统性疾病;④ 半年内无牙周病治疗史;⑤ 主观上有恢复牙龈美观的愿望;⑥ 女性未处于月经期、妊娠期。排除标准:① 患有严重疾病或者恶性疾病发生牙转移者;② 患有牙科其他疾病,或者对本次研究结果严重影响的疾病;③ 依从性差,或者拒绝参加研究者。

入选 2014 年 3 月 -2016 年 3 月我院收治的 96 例拟行烤瓷冠修复的患者, 按照入选顺序交替分为观察组与对照组,各 48 例。观察组男 15 例, 女 33 例, 年龄 21~46 岁, 平均年龄(33.3± 10.3)岁,共 56 颗牙,均为上颌前牙;对照组男 17 例,女 31 例,年龄 20~48 岁,平均年龄(35.9± 11.7)岁,共 52 颗牙,均为上颌前牙。两组的性别、年龄、牙数比较差异无统计学意义(*P>0.05*),具有可比性。

1.2 研究方法

所有患者均采用金属烤瓷冠修复, 修复基牙常规龈上预备,准备牙体后进行排龈,均使用美国皓齿 ULTRAPAK 排龈线,与龈沟宽度匹配,将排龈线起始端置于预备基牙的近中或远中邻面,与牙面呈 45° ,将排龈线压紧,缓慢压入龈下,并对基牙作一周的缠绕,保持预备牙颈部至龈缘下约为 0.5 mm。单线排龈到此即可,双线排龈需再取排龈线压入龈沟内。保持排龈线与游离龈缘上端平齐、连续、二者暴露好。排龈完成后选择硅橡胶制模,再灌注超硬石膏模型,制作烤瓷冠。

1.3 观察指标

1.3.1 排龈效果判断 观察基牙与游离龈是否完全排开,龈沟宽度是否合适,牙体预备后肩台的边缘是否清晰、连续,印模肩台是否清晰、连续,有无气泡,模型是否清晰、光滑,牙龈有无渗血等[16,17]。

1.3.2 随访 ① 评估修复后 24 周的烤瓷修复体边缘隐蔽性,根据唇侧龈缘修复体边缘的暴露情况分为无暴露 (0 级)、暴露<1/2(1 级)、暴露>1/2(2 级)、全部暴露(3 级)[18,19]。② 评估修复后 24 周的牙周组织情况:正常:牙龈正常,色泽健康,探诊无出血,探诊深度≤ 3 mm,牙槽骨无吸收;轻度缺损:牙龈轻度水肿,无出血,色泽加深,但无颈缘黑线,探诊深度≤ 3 mm,牙槽骨无吸收;中度病损:牙龈水肿,发红,出血,探诊深度>3 mm,牙槽骨有吸收但低于根长的 1/3;重度病损:牙龈红肿、溃疡,自动出血,探诊深度>3 mm,牙槽骨有吸收且>根长的 1/3。

1.4 统计学方法

应用 SPSS17.0 统计软件进行数据分析, 计量资料均以均数± 标准差表示,组间比较采用 t 检验;计数资料以百分率表示,组间比较采用 x^2 检验; *P<0.05* 为差异有统计学意义。

2 结果

2.1 两组基本情况的比较

观察组基牙与游离龈排开不全、印模肩台不清晰不连续或有气泡、模型不清晰不光滑、牙龈渗血的发生率均显著低于对照组中(*P<0.05*),见表 1。

表 1 两组排龈效果的比较[例(%)]

Table 1 Comparison of the effect of gingival retraction between two groups[n(%)]

Group	Number of teeth	Abutment and free gingival discharge is incomplete	Impression shoulder is not clear, not continuous or bubble	Model is not clear, smooth	Gingival bleeding
Observation group	56	6(10.7)	9(16.1)	6(10.7)	5(7.1)
Control group	52	13(25.0)	17(34.0)	11(21.2)	10(19.2)
P		0.002	0.001	0.002	0.014

2.2 两组随访情况的比较

修复后 24 周, 两组的修复体边缘隐蔽性比较差异无统计学意义(*P>0.05*),观察组 0 级牙数为 52 颗(92.9%),对照组 0 级牙数为 41(80.8%),观察组的牙周组织情况明显优于对照组(*P<0.05*),见表 2、3。

表 2 两组修复后 24 周修复体边缘隐蔽性比较[例(%)]

Table 2 Comparison of the margin of the prosthesis at 24 weeks after repair between two groups[n(%)]

Group	Number of teeth	normal	Mild defective	Moderate defect	Severe defect
Observation group	56	51(91.1)	5(8.9)	0(0.0)	0(0.0)
Control group	52	45(86.5)	5(9.6)	2(3.8)	0(0.0)
P			0.094		

表 3 两组修复后 24 周牙周组织情况的比较[例(%)]

Table 3 Comparison of the periodontal tissue at 24 weeks after repair between two groups[n(%)]

Groups	Number of teeth	level 0	Level 1	Level 2	Level 3
Observation group	56	52(92.9)	4(7.1)	0(0.0)	0(0.0)
Control group	52	41(80.8)	7(13.5)	4(7.7)	0(0.0)
P			0.000		

3 讨论

正常时,从龈沟底到牙槽嵴顶距离为 2.04 mm,是一个恒定的生物学宽度,排龈会引起游离龈垂直或水平方向,前牙修复时修复体龈边缘多置于龈下 0.5 mm 左右,而要达到此深度,备牙前需先于龈沟内压入排龈线从而确定修复体龈边缘位置,即可考虑生理需求,又可达到美观的需求[20]。上颌前牙由于位置突出,十分容易遭受龋坏或外伤[21]。金属烤瓷牙具有耐磨、抗折断的优点[22],是临床中常用的修复体。在烤瓷冠修复过程中,为了制取出满意的修复体,对牙体预备和印模制取的要求较高。出于美观考虑,前牙烤瓷冠常采取龈下边缘的设计,排龈操作是一道十分关键的工序,不仅是为了获得准确、清晰的印模,而且这样还有利于避免龈沟底部的上皮附着遭受破坏,保持正常的生物学宽度(约 2.04 mm)[23,24]。研究显示,排龈操作得当一般引起的牙龈退缩只在 0.1 mm,不会对美观度产生明显的影响[25,26]。

排龈线排龈可使牙龈降低 0.5～1 mm[27],使牙龈与牙面暴露出一个空间,便于精细印模材进入龈沟获得一个完整、清晰的印模,并且具有干燥龈沟、止血等作用。单线排龈法虽能够使基牙与游离龈排开,干燥龈沟,但取出后,很多时候龈沟内仍存在较多的渗出物,导致印模制取环境差。而采用双线排龈法,在取模操作时只需抽出上方的排龈线而留下下方的排龈线,不仅能起到继续隔湿干燥的作用,而且还能避免不同部位龈沟的关闭速度不一致[28,29]。

本研究显示:与对照组相比,观察组的牙体预备质量、印模质量、模型质量更好,牙龈渗血更少,主要是由于单线排龈法在排开游离龈,取出排龈线后,仍有较多渗出物;而应用双排龈线,取模前只取出上层,可用沟底部排龈线继续干燥,隔湿来获得干燥清洁的龈沟环境,保证基牙预备后取得精确印模,从而达到精密的修复体要求, 表明双线排龈法可使印模更加准确、清晰,肩台预备质量更好,可有效防止因备牙不当而致牙龈萎缩等不良事件的发生,最终获得设计良好、制作精密的烤瓷冠。本研究结果与 Lieblich M[30]等结果相似,再次证明了双线排龈法的优势。而随访结果显示两组修复后 24 周的修复体边缘隐蔽性比较差异无统计学意义,冠体的边缘密合度越好,越能够抵御外界刺激,保护牙周组织健康。两组修复后 24 周的牙周组织情况基本稳定, 而双线排龈法由于可能具有更好的干燥、止血作用,炎症反应轻,修复体龈下边缘对牙龈的刺激小[30],所以该组的牙周组织情况明显优于对照组。

综上所述,双线排龈法应用于前牙烤瓷冠修复中的排龈效果较单线排龈法更好,值得临床推广应用。

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