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一次性根管治疗联合清胃散口服对牙髓炎的治疗效果 及对疼痛程度影响*

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摘要 目的:探讨一次性根管治疗联合清胃散口服对牙髓炎的治疗效果及对疼痛程度影响。**方法:**选取我院 2021 年 1 月到 2022 年 12 月收治的 120 例牙髓炎患者,分为观察组与对照组,各 60 例。对照组患者应用一次性根管治疗,观察组患者应用一次性根管联合清胃散口服治疗,对比两组患者的临床治疗效果,治疗前后咀嚼功能与疼痛程度,白细胞计数(WBC)、降钙素原(PCT)、C 反应蛋白(CRP)相关炎症因子水平,并对比两组患者的菌斑指数(PLI),龈沟出血指数(SBI)、龈沟探诊深度(SPD)、牙龈指数(GI)相关牙周健康指标水平。**结果:**观察组总有效率为 93.33%明显高于对照组总有效率 80.00%($P<0.05$);两组患者治疗前咀嚼功能评分与视觉模拟量表(VAS)评分对比无差异($P>0.05$),治疗后咀嚼功能评分均升高,观察组较对照组高,VAS 评分降低,观察组较对照组低($P<0.05$);两组患者治疗前 WBC、PCT、CRP 水平对比无差异($P>0.05$),治疗后均降低,观察组较对照组低($P<0.05$);两组患者治疗前 GI、SPD、SBI、PLI 水平对比无差异($P>0.05$),治疗后均降低,观察组较对照组低($P<0.05$)。**结论:**一次性根管治疗联合清胃散口服能够改善牙髓炎的临床疗效,提升患者咀嚼功能,减轻疼痛程度,降低机体炎症因子水平,同时能够进一步改善患者牙周健康程度,值得临床应用推广。

关键词:一次性根管治疗;清胃散;牙髓炎;疼痛程度

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Effect of One-time Root Canal Therapy Combined with Oral Administration of Qingweisan on the Treatment of Pulpitis and Its Impact on the Degree of Pain*

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ABSTRACT Objective: To explore the therapeutic effect of one-time root canal therapy combined with oral administration of Qingweisan on pulpitis and its impact on the degree of pain. **Methods:** 120 patients with pulpitis admitted to our hospital from January 2021 to December 2022 were selected as research subjects. All patients were divided into observation group and matched group using random number table method, with 60 patients in each group. The patients in the matched group were treated with one-time root canal therapy, while the patients in the observation group were treated with one-time root canal therapy combined with Qingweisan orally. The clinical therapeutic effects of the two groups were compared, including masticatory function, pain degree, white blood cell count (WBC), procalcitonin (PCT), and C-reactive protein (CRP) related inflammatory factors before and after treatment. The plaque index (PLI), gingival sulcus bleeding index (SBI), probing depth of gingival sulcus (SPD), and gingival index (GI) related periodontal health indicators were compared between the two groups. **Results:** The total effective rate of 93.33% in the observation group was higher than that of 80.00% in the matched group ($P<0.05$); There was no significant difference between the scores of masticatory function and the scores of Visual Simulation Scale (VAS) before treatment between the two groups ($P>0.05$). After treatment, the scores of masticatory function in both groups increased, while the scores of VAS in the observation group were lower than those in the matched group ($P<0.05$); There was no difference in the levels of WBC, PCT, and CRP between the two groups before treatment ($P>0.05$). After treatment, the levels in the two groups decreased, and the observation group was lower than the matched group ($P<0.05$); There was no difference in the levels of GI, SPD, SBI, and PLI between the two groups before treatment ($P>0.05$). After treatment, the levels in the two groups decreased, and the

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observation group was lower than the matched group ($P < 0.05$). **Conclusion:** Disposable root canal therapy combined with oral administration of Qingweisan can improve the clinical efficacy of pulpitis, enhance the masticatory function of patients, alleviate pain, reduce the level of inflammatory factors in the body, and further improve the periodontal health of patients, which is worthy of clinical application and promotion.

Key words: Disposable root canal therapy; Qingwei Powder; Pulpitis; Degree of pain

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前言

牙髓炎是指主要发生在牙髓的炎性病变,可由牙髓暴露、牙冠折断、牙齿缺损、深龋以及感染等多种原因引起,患者主要表现为牙齿疼痛,尤其是夜间疼痛较为剧烈,降低患者生活质量^[1]。若不及时对牙髓炎进行有效治疗,患者随着疾病发展,可能会出现牙髓坏死、变性,进而出现牙槽骨感染、发热、面部肿胀情况,对咬合和咀嚼功能产生严重影响^[2]。一次性根管治疗术是临床上治疗牙髓炎的常用措施,能够在一次治疗内完成根管预备、消毒清洗和填充等相关治疗。一次性根管治疗与以往多次治疗相比,能够使用填充材料对根管系统进行严密封闭,避免细菌与营养物质进入髓腔内导致的感染现象,一次性阻断口腔与根管之间的交通,同时减少患者就诊次数^[3,4]。然而临床研究发现^[5],虽然一次性根管治疗改善了牙髓炎的治疗效果,但依然有一部分患者存在根管治疗后牙痛剧烈现象,影响其咀嚼功能。因此,如何改善根管治疗后牙髓炎患者的疼痛程度,提升临床疗效成为研究热点内容。

中医认为,牙髓炎属于"齲齿"、"牙痛"范畴,认为该病的发生主要由口腔卫生较差所引起,导致胃脏积热而上冲于牙齿,长期侵袭则引起牙齿生腐,相互影响之后,出现蛀洞情况^[6,7]。所以,牙髓炎的治疗需以清胃凉血为主。研究发现^[8],清胃散作为临床上常见的泻热、清胃凉血中药方剂可改善牙髓炎治疗效果,但是联合一次性根管治疗是否能够进一步改善患者疼痛程度与咀嚼功能尚无确切定论。因此,本研究选取我院2021年1月到2022年12月收治的120例牙髓炎患者作为研究对象,探讨一次性根管治疗联合清胃散口服对牙髓炎的治疗效果及对疼痛程度影响。

1 资料与方法

1.1 一般资料

选取我院2021年1月到2022年12月收治的120例牙髓炎患者作为研究对象,将所有患者应用随机数字表法分为观察组与对照组,每组60例。对照组60例患者中男性37例,女性23例;年龄25~63岁,平均(43.25±5.27)岁。对照组60例患者中男性34例,女性26例;年龄23~61岁,平均(43.57±5.26)岁。两组患者一般资料对比无差异($P > 0.05$)。本研究经我院伦理委员会批准。

1.2 纳排标准

纳入标准:通过临床检查和X线诊断确诊为牙髓炎,符合根管治疗术指征^[9];叩痛明显;年龄>18岁;对本研究知情并签署同意书;每一例患者选择一颗患牙。

排除标准:合并其他部位感染者;合并心血管疾病或急性

期根尖周炎者;存在根管重度弯曲者;患牙伴有根分叉和隐裂病变者;合并颞下颌关节紊乱病者;牙周状况差或缺损范围大者;残根冠破坏严重无法修复者;已经进行过根管治疗失败的患者;对本研究所用药物过敏者。

1.3 主要试剂和仪器

牙片机(赛特立,法国);根管测量仪(Densply公司,美国);机用镍钛马达(益锐公司,中国);SybronEndo热牙胶充填仪(卡瓦盛邦牙科医疗器械有限公司,上海);17% EDTA 凝胶(派丽登,美国);1%NaClO 冲洗液(天津中鼎生物医学科技有限公司,中国);iRoot SP 根充糊剂(创新生物陶瓷有限公司,加拿大);大锥度牙胶尖(Densply公司,美国);Z350 纳米树脂(3M公司,美国);橡皮障(康特,瑞士)。

1.4 方法

对照组:所有患者均采用一次性根管治疗术,具体方法为:对所有患者进行X线片拍摄,确定患者的根尖病变程度和根管情况,并确定根管数量。局部麻醉处理后,在直视下打开髓腔,并进行髓腔清理,再应用根尖定位仪确定实际工作长度。随后应用M3镍钛根管锉进行根管相关预备处理,并在处理过程中应用次氯酸钠对根管进行冲洗,浓度为1%,待无菌纸尖干燥之后,进行根管充填。在主牙胶尖的三分之一处蘸取iRoot SP糊剂填充到根管内,将携热器工作尖进行加热后,放置在距离根尖孔的3~5 mm位置,关闭加热,保持加压10 s左右,待完全冷却之后再行1 s加热,随后将携热器推出,将根管上段的牙胶烫去后,对根尖的牙胶进行垂直加压,将热牙胶进行分段注射,直到根管填充满位置,最后将多余的iRoot SP糊剂去掉。两组患者治疗均由同一医师进行,并在术后进行X线片拍摄,检查患者根管封堵情况与填充情况,及时采取永久性牙体修复措施,叮嘱患者按时复查,治疗后14 d随访其临床疗效。

观察组:采用一次性根管联合清胃散口服治疗,一次性根管治疗方法与对照组相符,且同时口服清胃散,清胃散主要成分为生地黄、当归身各6 g,牡丹皮9 g,黄连6 g(夏月倍之),升麻9 g,上药为末,都作一服,水盪半,煎至七分,去滓,放冷服之。每日2次,连续口服14 d。

1.5 观察指标与疗效判定标准

1.5.1 观察指标 (1)观察并记录两组患者治疗前后的咀嚼功能与疼痛程度。其中咀嚼功能评价判定标准为:让患者咀嚼干燥的花生3 g,当想要吞咽时,将食团突出,记录咀嚼时间与次数,重复三次,再将食物残渣洗涤干燥,放在试验筛上振筛10 min,依照不同直径筛孔通过食物的比重来评价具体咀嚼功能,分数越高代表咀嚼功能越好。疼痛程度应用视觉模拟量表(VAS)评分评价,分数为0-10分,得分越高代表疼痛感越剧烈^[10]。

(2)炎症因子:分别在治疗前与治疗后抽取患者空腹静脉血检测白细胞计数(WBC)、降钙素原(PCT)、C反应蛋白(CRP)表达水平。

(3)分别在患者治疗前与治疗后通过患者复查检测患者牙周健康指标,包括菌斑指数(PLI)、龈沟出血指数(SBI)、龈沟探诊深度(SPD)、牙龈指数(GI)。

1.5.2 疗效判定标准 疗效判定标准:治疗后患者根尖周X线片显示无阴影,对咀嚼功能无影响,周围组织无炎症红肿现象,且无疼痛感为痊愈。治疗后患者根尖周X线片显示的阴影面积缩小,对咀嚼功能影响较小,周围组织轻度炎症红肿,无明

显疼痛感为有效。治疗后患者根尖周X线片显示阴影无改善甚至扩大,咀嚼时明显不适,周围组织明显炎症红肿现象,且疼痛感强烈为无效。总有效率=显效率+有效率^[1]。

1.6 统计学方法

SPSS 23.0 分析,计数资料以(n/%)表示,进行 χ^2 检验;计量资料用($\bar{x} \pm s$)表示,采用t检验;以 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 临床疗效对比

观察组总有效率较对照组高($P < 0.05$)。如表1所示。

表1 临床疗效对比[例(%)]

Table 1 Comparison of clinical efficacy [cases (%)]

Groups	n	Recure	Valid	Invalid	Total efficiency
Observation group	60	44(73.33%)	12(20.00%)	4(6.66%)	56(93.33%)
Matched group	60	37(61.67%)	11(218.33%)	12(20.00%)	48(80.00%)
χ^2	-	-	-	-	4.620
P	-	-	-	-	0.032

2.2 咀嚼功能与疼痛程度对比

两组患者治疗前咀嚼功能评分与VAS评分对比无差异

($P > 0.05$),治疗后咀嚼功能评分均升高,观察组较对照组高,VAS评分均降低,观察组较对照组低($P < 0.05$),如表2所示。

表2 咀嚼功能与疼痛程度对比($\bar{x} \pm s$,分)

Table 2 Comparison of masticatory function and pain degree($\bar{x} \pm s$, points)

Groups	n	Masticatory function		VAS score	
		Before treatment	After treatment	Before treatment	After treatment
Observation group	60	52.92 $\pm$ 8.36	83.43 $\pm$ 11.68*	5.85 $\pm$ 1.15	2.12 $\pm$ 0.31*
Matched group	60	52.10 $\pm$ 8.23	76.42 $\pm$ 10.44*	5.71 $\pm$ 1.62	3.13 $\pm$ 0.41*
t		0.256	3.068	0.386	10.763
P		0.799	0.002	0.701	0.001

Note: compared with Before and after treatment between the same groups, * $P < 0.05$, the same below.

2.3 炎症因子水平对比

两组患者治疗前WBC、PCT、CRP水平对比无差异($P >$

0.05),治疗后两均降低,观察组较对照组低($P < 0.05$),如表3所示。

表3 炎症因子水平对比($\bar{x} \pm s$)

Table 3 Comparison of inflammatory factor levels($\bar{x} \pm s$)

Groups	n	WBC($\times 10^9/L$)		PCT(ng/mL)		CRP(mg/L)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Observation group	60	25.68 $\pm$ 3.26	9.34 $\pm$ 2.67*	1.45 $\pm$ 0.25	0.35 $\pm$ 0.04*	31.46 $\pm$ 5.53	7.65 $\pm$ 1.24*
Matched group	60	25.23 $\pm$ 3.35	16.62 $\pm$ 3.24*	1.43 $\pm$ 0.36	0.62 $\pm$ 0.16*	31.36 $\pm$ 7.47	13.26 $\pm$ 3.37*
t		0.381	12.544	0.015	16.565	0.060	17.337
P		0.705	0.001	0.988	0.001	0.952	0.001

2.4 牙周健康指标对比

两组患者治疗前GI、SPD、SBI、PLI水平对比无差异($P > 0.05$),治疗后均降低,观察组较对照组低($P < 0.05$),如表4所示。

3 讨论

临床研究显示^[12],牙髓炎的发生与发展多与感染具有密切关系,感染深入牙体或牙周组织后,导致深龋出现,经根管口或

表 4 牙周健康指标对比($\bar{x} \pm s$)
Table 4 Comparison of periodontal health indicators($\bar{x} \pm s$)

Groups	n	GI(ng/L)		SPD(mm)		SBI		PLI	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Observation group	60	1.32± 0.11	0.63± 0.22	3.18± 0.83	2.16± 0.44	0.75± 0.14	0.51± 0.11	1.95± 0.33	0.97± 0.38
Matched group	60	1.30± 0.29	0.95± 0.24	3.18± 0.86	2.58± 0.38	0.73± 0.16	0.63± 0.14	1.92± 0.25	1.34± 0.47
t		0.381	2.546	0.256	2.499	0.015	2.528	10.060	2.546
P		0.705	0.012	0.799	0.015	0.988	0.014	0.952	0.014

根尖进入到牙髓而出现急性牙髓炎症发作。流行病学研究显示^[13],牙髓炎导致的疼痛成为口腔疾病常见的临床症状,发生率高达 57.6%左右,也是导致牙科焦虑症的主要原因。当前牙髓炎的西医治疗主要采取修复牙体、护髓、抗感染等措施。随着中医科学技术的发展,中医治疗牙髓炎逐渐累积了丰富经验,《灵枢·经脉》中记载"胃足阳明之脉……上齿中……出挟口环唇……",提示口腔疾病和机体脾胃功能情况具有重要关系^[14]。Zanjir M 等^[15]研究发现,牙髓炎的发生不仅与脾胃功能具有一定关系,而且食物不洁或口腔卫生较差也会导致细菌残留长期腐蚀牙体,诱导牙髓炎发生。因此,本研究对牙髓炎采用中西医结合疗法,在一次性根管治疗基础上增加清胃散口服,旨在为临床提供参考意见。

本研究结果表明,观察组总有效率较对照组高($P<0.05$)。提示一次性根管治疗联合清胃散口服能够改善牙髓炎的治疗效果,与 Li H 等^[16]、巫遂燕等^[17]研究相符。Li H 等研究表明,对牙髓炎患者采用一次性根管治疗与传统多次根管治疗相比更能够改善患者临床疗效,减少牙髓再次感染情况。这主要是因为,根管治疗后,应用糊剂可减少对患者周围组织产生刺激,进一步抑制细菌增长,控制根尖炎症的同时,提升牙髓炎的治疗效果^[18]。巫遂燕等研究发现,清胃散可改善牙髓炎的临床疗效。这主要是因为,清胃散的组方之中牡丹皮可活血化瘀、清热凉血;当归可调理脾胃、补血活血;升麻可清热解毒;地黄可生津滋阴、清热养血;黄连和泻火解毒、清热燥湿,诸药合用共奏清热凉血、调理脾胃之效,进一步改善患者牙髓炎相关临床症状^[19,20]。另外有研究显示^[21,22],牙髓炎的发生除了与自身牙齿清洁程度有关,还因为胃主消化,降浊,脾主运化,共同完成对事物的消化和吸收,若脾胃功能失调,湿浊内生,蕴热化火,至于口齿,诱发牙髓炎症。而清胃散具有清热凉血的基础上,能够调节脾胃,从根本上改善牙髓炎相关症状;两组患者治疗前咀嚼功能评分与 VAS 评分对比无差异($P>0.05$),治疗后咀嚼功能评分均升高,观察组较对照组高,VAS 评分均降低,观察组较对照组低($P<0.05$)。提示采取一次性根管治疗联合清胃散口服可改善牙髓炎患者的疼痛程度与咀嚼功能,与马晶等^[23]研究相符。这主要是因为,清胃散中的多种有效成分可产生缓解疼痛作用。例如现代药理学研究发现^[24],黄连之中含有的生物碱成分,可解热、抗炎、抗菌,用于牙髓炎的治疗后能够减轻患者炎症反应,缓解疼痛程度;两组患者治疗前 WBC、PCT、CRP 水平对比无差异($P>0.05$),治疗后两均降低,观察组较对照组低($P<0.05$)。一般来说,WBC 升高时,多提示着体内可能存在着感染,以细菌感染为主。研究发现^[25],PCT 作为炎症因子的一种

代谢快、生物活性高,临床检测更容易,而且不依赖肾脏排泄。CRP 主要指的是在组织损伤或机体受到感染之后,在血浆之中产生的一种急性蛋白,能够加强吞噬细胞的吞噬作用,清除微生物、病原菌,修复凋亡、损伤的细胞组织,对免疫过程产生保护作用^[26]。而本研究发现观察组患者 WBC、PCT、CRP 水平低于对照组,也证明了应用清胃散治疗能够进一步改善患者炎症因子水平。这主要是因为,清胃散中多种成分均具有减轻炎症反应的作用。例如地黄之中含有的多种氨基酸成分,能够抑制炎症反应所导致的毛细血管通透性增加情况,进而产生抗过敏、抗炎效果^[27]。现代药理学研究发现^[28],当归具有抗炎、抗菌效果,能够改善机体末梢循环,进一步减轻机体炎症反应程度;两组患者治疗前 GI、SPD、SBI、PLI 水平对比无差异($P>0.05$),治疗后均降低,观察组较对照组低($P<0.05$)。提示清胃散能够进一步改善患者牙周健康程度。这主要是因为,清胃散中多种药材不仅能够改善牙髓炎的渗出与水肿情况,还能够抑制纤维组织增生,提升巨噬细胞功能,吞噬炎症因子的同时能够提升牙周健康程度^[29]。另外现代药理学研究发现^[30],清胃散之中含有的牡丹皮中包含的牡丹酚等成分可增强机体抗炎效果,并且其含有的没食子酸可抵抗牙齿中含有的枯草杆菌、大肠杆菌等多种细菌。

综上所述,一次性根管治疗联合清胃散口服能够改善牙髓炎的临床疗效,提升患者咀嚼功能,减轻疼痛程度,降低机体炎症因子水平,同时能够进一步改善患者牙周健康程度,值得临床应用推广。

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