



Endodontic Treatment of Chronic Apical Periodontitis with The Drug Hydroxy calcium by Delayed Filling

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ABSTRACT

Treatment of patients with chronic periodontitis is one of the most difficult and important tasks of modern dentistry. 134 patients were examined on an outpatient basis with endodontic treatment of the two most common types of pastes: resorcinol-formalin and Calcevit. According to the type of paste, all examined patients were divided into two groups: 78 patients (51.5%) whose teeth were sealed with resorcinol-formalin paste and 56 patients (48.5%) with Calcite paste. According to the results of the study, it was found that in the group of teeth previously treated with resorcinol-formalin paste, more than 2/3 were molars (77.0 + 2.2%), every fifth tooth was premolar (19.1 + 2.0%) and there were fewer front teeth (3.9 + 1.0%). In the group of teeth previously treated with Calcite paste, the ratio of types of teeth in different age subgroups differed. Almost equal proportions in frequency were noted for the anterior teeth (29.2 + 2.4%), premolars (29.8 + 2.4%), the proportion of molars was slightly higher (41.0 + 2.4%).

Keywords:

Calcite paste, resorcinol-formalin paste, radiological.

Despite the constant introduction of the latest endodontic tools, materials and technologies, the percentage of complications after endodontic treatment remains high. Patients with diseases of the periapical tissues make up from 18% to 40% of the total number of people who have sought dental care [1,2,3,4].

Chronic apical periodontitis can serve as a source of the development of odontogenic inflammatory processes of the maxillofacial region and neck, complicate the course of diseases of internal organs and systems, lead to tooth extraction, bite deformity and a decrease in chewing efficiency, thereby causing physical and moral inconvenience to the patient [5,6,7]. Sources of progressive periapical foci of chronic infection in 14.8% of cases there are teeth with non-sealed root canals and in 76.4% - teeth with partially sealed canals [8].

During X-ray examination of teeth after previously performed endodontic treatment using resorcinol-formalin and Calcevit pastes, periapical destructive changes were detected in 80% of cases and poorly sealed root canals in 50% of cases [9]. The cheapest and most widespread filling materials for root canals in the vast majority of dental medical organizations in 73.4% are Ca(OH) — Calcevit(VladMiVa) and resorcinol-formalin paste [10].

The purpose of the study. Improving the effectiveness of repeated endodontic treatment of chronic apical periodontitis using the method of delayed root canal filling.

Materials and methods. We conducted a study of randomly selected 134 medical records of dental patients aged 18 to 70 years from a

dental appointment in a city municipal polyclinic for the period from 2008 to 2013. According to the type of paste, all examined patients were divided into two groups: 78 patients (51.5%) whose teeth were sealed with resorcinol-formalin paste and 56 patients (48.5%) Calcevit (VladMiVa) paste. At this stage, 57 patients (64 teeth) underwent repeated endodontic treatment: 32 women and 25 men aged 18 to 70 years, due to poor-quality endodontic treatment due to chronic pulpitis and/or chronic pulpitis in the acute stage. Comprehensive examination of patients consisted of clinical and radiological methods. Clinical examination included examination, palpation, percussion, probing. Targeted intraoral radiographs of the examined teeth were performed to determine the density and level of root canal filling, the degree of their patency, the condition of the periapical tissues (expansion of the periodontal fissure, the nature of periapical changes) and bone tissue of the interdental septa.

By random sampling, the patients were divided into two groups: control and main. In turn, each group was divided into two subgroups according to the type of filling material in the root canals: Ca(OH) — Calcevit (VladMiVa) and resorcinol-formalin paste.

Total	40	54,2 ± 4,4	34	45,8 ± 4,4	74	100
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Note: in this and subsequent tables RFP — resorcinol - formalin paste, Ca(OH) — Calcevit (VladMiVa) paste, Abs. - absolute value.

Results. It was found that in the group of teeth previously treated with resorcinol-formalin paste, more than 2/3 were molars (77.0 + 2.2%), every fifth tooth was premolar (19.1 + 2.0%) and there were fewer front teeth (3.9 + 1.0%). In this group, in various age subgroups of patients, we noted that at the age of 35-44 years, 45-54 years and 55-64 years, all types of teeth are most fully represented: incisors, canines, premolars and molars. In the subgroup of patients aged 35-44 years, the number of molars dominated - 80.5 + 3.7%, premolars 4 times less - 18.6 + 3.7%, and front teeth - 0.9 + 0.9%.

A similar trend persisted in the age subgroup of 45-54 years: it was also dominated by molars — 75.9 + 4.0%, significantly fewer premolars - 22.4 + 3.9%, and front teeth - 1.7 + 1.2%. In the age subgroup of 55-64 years, there were 59.3 + 5.5% molars, 25.9 + 4.9% premolars, and 14.8 + 3.9% front teeth. In the oldest age subgroup of 65 years and older and a subgroup of patients aged 25-34 years, the specific composition of teeth was represented by premolars and molars. In the 25-34—year-old subgroup there were 95.3 + 3.2% molars and significantly fewer premolars - 4.7 + 3.2%.

In patients 65 years and older, molars were 71.4 + 17.1%, and premolars were 2.5 times less - 28.6 + 17.1% of teeth. In the youngest age subgroup of patients aged 18-24, all teeth identified were molars. The largest number of teeth in the aggregate accounted for patients of age subgroups 45-54 years (30.7 ± 2.4%) and 35-44 years (29.9 + 2.4%).

Table 1.

Distribution of patients in the control and main groups.

Type of paste	RFP		Ca(OH)		Totally	
	Aбс	% + τ	Aбс	% + τ	Aбс	%±τ
Control	13	54,2 ± 6,4	16	45,8 ± 6,4	31	45,0 ± 4,3
Main	27	54,2 + 6,0	18	45,8 ± 6,0	43	55,0 ± 4,3

In the group of teeth previously treated with Calcevit (VladMiVa) paste, the ratio of types of teeth in different age subgroups differed. Almost equal proportions in frequency were noted for the anterior teeth (29.2 + 2.4%), premolars (29.8 + 2.4%), the proportion of molars was slightly higher (41.0 + 2.4%). In this group of patients, in almost all age subgroups, except for the oldest subgroup, all types of teeth were identified. In the youngest age subgroup of patients aged 18-24, molars prevailed - 58.9 + 6.6%, premolars were two times less - 26.8 + 5.9%, front teeth were 14.3 + 4.7%. In the age subgroup of 25-34 years, the proportions of premolars and anterior teeth were almost the same: 34.5 + 5.2% and 35.7 + 5.2%, there were slightly fewer molars — 29.8 + 5.0%.

In the subgroups of patients aged 35-44 years and 45-54 years, the proportions of the anterior teeth and premolars were the same: 27.5 + 4.1% and 31.3 + 6.9%, respectively. In the 55-64—year-old subgroup, there were almost half of the front teeth - 44.8 + 9.2%, and the same number of premolars and molars: 27.6 + 8.3% of teeth each. In the oldest age subgroup 65 years and older, molars were 66.7 + 27.2%, and premolars were two times less — 33.3 + 27.2%. The largest the number of patients treated endodontically using Calcevit (VladMiVa) paste was aged 35-44 years (33.7 + 2.5%), slightly less - in the age subgroup of 25-34 years (23.6 + 2.3%).

Thus, as a result of a retrospective analysis, we came to the conclusion that two types of pastes were most widely used for filling root canals: resorcinol-formalin (51.5%) and Calcevit (VladMiVa) (48.5%). We noted that the specific composition of teeth previously sealed with resorcinol-formalin paste consistently expanded with increasing age of patients. At the same time, in each age subgroup, the number of treated molars dominated over other types of teeth. And in the group of teeth previously sealed with Calcevit (VladMiVa)

paste, the species composition of teeth was widely represented in all age subgroups.

Conclusions.

Repeated endodontic treatment in compliance with modern requirements of mechanical, medical treatment and root canal filling contributes to the restoration of bone tissue in the area of destructive periapical foci, regardless of the type of paste, while the favorable prognosis is significantly higher in teeth previously sealed with poor-quality Calcevit (VladMiVa) paste (17.3%) than resorcinol-formalin (12.5%). Retrospective analysis revealed that endodontic dental treatment with diagnoses of chronic pulpitis or chronic pulpitis in the acute stage was more often performed using resorcinol-formalin paste in patients aged 45-54 years (30.7 + 2.4%), using Calcevit (VladMiVa) paste - 35-44 years (33.7 + 2.5%), which indicates socially the active part of the population.

The dynamics of recovery of periapical lesions was 2-2.5 times higher in teeth (especially those previously treated with Calcevit (VladMiVa)), during which the method of delayed root canal filling was used (in teeth with resorcinol-formalin paste - 31.9%, in teeth with Calcevit(VladMiVa) paste -36.4%), compared to with conventional endodontic treatment (in teeth with resorcinol-formalin paste — 12.5%, in teeth with Calcevit (VladMiVa) paste — 17.3%), which is reliably confirmed by the dynamics of the increase in the average values of the PAI index according to Solovyova A.M.

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