IMPROVING THE ENDODONTIC TREATMENT OF CHRONIC APICAL PERIODONTITIS BY DELAYED FILLING

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Abstract: *treatment of patients with chronic periodontitis is one of the most complex and important tasks of modern dentistry. On an outpatient basis , 134 patients with endodontic treatment were examined with the two most common types of pastes: resorcinol-formalin and zinc oxide-eugenol. According to the type of paste, all examined patients were divided into two groups: 78 patients (51.5%), whose teeth were filled with resorcinol-formalin paste and 56 patients (48.5%) with zinc oxide - eugenol 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 the smallest were the front teeth (3.9+1.0%). In the group of teeth previously treated with zinc oxide eugenol paste, the ratio of tooth types in different age subgroups was different. Almost equal shares in frequency were noted for anterior teeth (29.2+2.4%), premolars (29.8+2.4%), the proportion of molars (41.0+2.4%) was slightly larger.*
Keywords: *zinc oxide eugenol paste, resorcinol-formalin paste, radiological.*

УСОВЕРШЕНСТВОВАНИЕ ЭНДОДОНТИЧЕСКОГО ЛЕЧЕНИЕ ХРОНИЧЕСКОГО АПИКАЛЬНОГО ПЕРИОДОНТИТА МЕТОДОМ ОТСРОЧЕННОГО ПЛОМБИРОВАНИЯ

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Аннотация: *лечение больных хроническим периодонтитом является одной из наиболее сложных и важных задач современной стоматологии. В амбулаторных условиях обследовано 134 пациента с эндодонтическом лечениям двумя наиболее распространёнными видами паст: резорцин-формалиновой и цинкоксидэвгеноловой. Соответственно виду пасты все обследованные пациенты были разделены на две группы: 78 пациентов (51,5%), зубы которых были запломбированы резорцин-формалиновой пастой и 56 пациентов (48,5%) - цинкоксидэвгеноловой пастой. По результатам исследования установлено, что в группе зубов, ранее леченных с использованием резорцин-формалиновой пасты, более 2/3 составили моляры (77,0+2,2%), каждый пятый зуб был премоляром (19,1+2,0%) и меньше всего было передних зубов (3,9+1,0%). В группе зубов, ранее леченых с использованием цинкоксидэвгеноловой пасты, соотношение видов зубов в различных возрастных подгруппах отличалось. Почти равные доли по частоте отмечены для передних зубов (29,2+2,4%), премоляров (29,8+2,4%), несколько больше была доля моляров (41,0+2,4%).*
Ключевые слова: *цинкоксидэвгеноловая паста, резорцин-формалиновая паста, рентгенологический.*

Introduction. Despite the constant introduction of the latest endodontic instruments, materials and technologies, the percentage of complications after endodontic treatment remains high. Patients with diseases of periapical tissues make up from 18% to 40% of the total number of people who applied for dental care [1,2,3,4]. Chronic apical periodontitis can serve as a source of 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, malocclusion and decreased chewing effectiveness, 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 are teeth with unsealed root canals and in 76.4% are teeth with partially sealed canals [8].

During an X-ray examination of teeth after previous endodontic treatment using resorcinol-formalin and zinc oxide-eugenol paste in 80% of cases, periapical destructive changes were revealed and in 50% of cases poorly

filled root canals [9]. The cheapest and most common filling materials for root canals in the vast majority of dental medical organizations in 73.4% are zinc oxide-eugenol and resorcinol-formalin pastes [10].

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. A study of randomly selected 134 medical records of dental patients aged 18 to 70 years from a dental appointment in the city municipal clinic for the period from 2008 to 2013 was carried out. According to the type of paste, all examined patients were divided into two groups: 78 patients (51.5%), whose teeth were filled with resorcinol-formalin paste and 56 patients (48.5%) with zinc oxide - eugenolpasta. At this stage, 57 patients (64 teeth) were re-endodontically treated: 32 women and 25 men aged 18 to 70 years, for poor-quality endodontic treatment due to chronic pulpitis and / or chronic pulpitis in the acute stage. A comprehensive examination of patients consisted of clinical and radiological methods. Clinical examination included examination, palpation, percussion, sounding. Sighting intra-oral radiographs of the examined teeth were performed to determine the density and level of root canal filling , the degree of patency, the state near the apical tissues (expansion of the periodontal gap, the nature of the periapical changes) and bone tissue of the interdental septum. Using random sampling, 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: zinc oxide-eugenol paste and resorcinol-formalin paste.

Table 1. Distribution of patients in the control and main groups

Type of paste	**RFP**		**Cep**		**Total**	
Patient groups	abs	%+t	abs	%+t	abs	% ± t
Control	13	54.2 ± 6.4	sixteen	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
Total	40	54.2 ± 4.4	34	45.8 ± 4.4	74	100

Note: in this and subsequent tables, RFP - resorcinol - formalin paste, CEP - zinc oxide- eugenol 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 less total were 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, the number of molars dominated - 80.5+3.7%, premolar 4 times less - 18.6+3.7%, and anterior teeth - 0.9+0.9%.

A similar trend continued in the age group of 45-54 years: it also dominated by molars - 75.9+4.0%, significantly less than premolars - 22.4+3.9%, and front teeth - 1.7+1, 2%. In the age subgroup of 55-64 years, molars were 59.3+5.5%, premolars were 25.9+4.9%, and front teeth were 14.8+3.9%. In the very oldest age subgroup of 65 years and older and a subgroup of patients aged 25 to 34 years, the species composition of the teeth was represented by premolars and molars. In the subgroup of 25-34 years old there were 95.3+3.2% molars and significantly less premolars - 4.7+3.2%. In patients 65 years and older, the molars had 71.4+17.1%, and the premolar was 2.5 times smaller - 28.6+17.1% of the teeth. In the youngest age subgroup of patients 18-24 years old, all identified teeth were molars. The largest number of teeth in the aggregate was in patients aged 45–54 years (30.7 ± 2.4%) and 35–44 years old (29.9+2.4%).

In the group of teeth previously treated with zinc oxide eugenol paste, the ratio of tooth types in different age subgroups was different. Almost equal shares in frequency were noted for anterior teeth (29.2+2.4%), premolars (29.8+2.4%), the proportion of molars (41.0+2.4%) was slightly larger. 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 predominated - 58.9+6.6%, half the number of premolars - 26.8+5.9%, anterior teeth - 14.3+4.7%. In the age group of 25-34 years, the share of premolars and the front teeth were almost the same: 34.5+5.2% and 35.7+5.2%, slightly less molars - 29.8+5.0%.

In the subgroups of patients 35-44 years old and 45 - 54 years old, the shares of the front teeth and premolar were the same: 27.5+4.1% and 31.3+6.9%, respectively. In the subgroup of 55-64 years of anterior teeth there were almost half - 44.8+9.2%, and the same number of premolars and molars: 27.6+8.3% each. In the oldest age subgroup of 65 years and older, molars were 66.7+27.2%, and premolars were half as much - 33.3+27.2%. The largest number of patients treated endodontically with zinc oxide eugenol paste was 35–44 years old (33.7+2.5%), slightly less in the 25–34 year old subgroup (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 root canal filling: resorcinol-formalin (51.5%) and zinc oxide-eugenol (48.5%). We noted that the species composition of the teeth previously filled with resorcinol-formalin paste, consistently expanded with increasing age of patients. Moreover, in each age subgroup, the number of treated molars dominated other types of teeth. And in the group

of teeth previously filled with zinc oxide-eugenol paste, the tooth composition was widely represented in all age subgroups.

In The conclusions. Repeated endodontic treatment in compliance with modernrequirements of mechanical, drug treatment androot canalfillinghelps to restore bone tissue in the area ofdestructive periapical foci regardless of the type of paste, while the favorable prognosis is significantly higher in teeth previously filled withpoor quality zinc oxide eugenol paste (17.3%), than resorcinol-formalin (12.5%). Retrospective analysis revealed that endodontically treated teeth with chronic pulpitis or chronic pulpitis in the stage of bostreniya often performed using resorcinol-formalin paste for patients aged 45-54 years (30.7+2.4%), using zinc oxide eugenol paste - 35-44 years (33.7+2.5%), which indicates a socially active part of the population.

The dynamics of restoration of periapical lesions was 2–2.5 times higher in teeth (especially previously treated with zinc oxide eugenol paste), during the retreatment of which the delayed root canal filling method was used (in teeth with resorcinol- formalin paste - 31.9%, in teeth with zinc oxide eugenol paste - 36.4%), compared to conventional endodontic treatment (in the teeth with a resorcinol-formalin paste - 12.5%, in the teeth zinc oxide eugenol paste - 17.3%), which was significantly supported by the dynamics of growth of average value of the index PAI on Solovieva A.M.

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