



IMPROVEMENTS IN THE TREATMENT OF APICAL PERIODONTITIS

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ABSTRACT

In the structure of therapeutic treatment, 35% are visits for pulpitis and periodontitis. The inflammatory process in periodontal disease is the main cause of tooth extraction. On an outpatient basis, 134 patients were examined with endodontic treatment with two of the most common types of pastes: resorcin-formalin and zinc oxide eugenol. According to the type of paste, all the examined patients were divided into two groups: 78 patients (51.5%) whose teeth were sealed with resorcin-formalin paste and 56 patients (48.5%) with zinc oxide eugenol paste. According to the study, in the group of teeth previously treated with resorcin-formalin paste, more than 2/3 were molars (77.0 + 2.2%), every fifth tooth was premolar (19.1 + 2.0%) and the least were the front teeth (3.9 + 1.0%).

The sources of progressive periapical foci of chronic infection in 14.8% of cases are teeth with unfilled root canals and in 76.4% - teeth with partially filled canals [1]. An X-ray examination of teeth after previous endodontic treatment using resorcinol-formalin and zinc oxide eugenol pastes revealed periapical destructive changes in 80% of cases and poorly filled root canals in 50% of cases [3]. Popova I.I. in his work indicates that radiological quality control of root canal filling is carried out only in 71.2% of cases, and according to other authors in 69.4% [5,8]. The cheapest and most widespread filling materials for root canals in the vast majority of dental medical organizations (73.4%) are zinc oxide eugenol and resorcinol-formalin pastes [4]. Methods of filling root canals with "one paste" and using the resorcinol-formalin method in poorly accessible root canals do not guarantee their high-quality obturation and can lead to the development of periapical foci of chronic infection [2,6,7]. This emphasizes the importance of high-quality endodontic treatment to prevent microbial contamination and the impact of their waste products on surrounding tissues [2]. As clinical experience shows, the method of delayed root canal filling significantly expands the dentist's capabilities in the conservative treatment of chronic apical periodontitis, makes endodontic treatment safer, physiological and predictable.

Purpose of the study.

Increasing 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 clinic 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 filled with resorcinol-formalin paste and 56 patients (48.5%) with zinc oxide eugenol paste. At this stage, repeated endodontic treatment was performed on 57 patients (64 teeth): 32 women and 25 men aged from 18 to 70 years, due to 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 inspection, palpation, percussion, and probing. Targeted intraoral radiographs of the examined teeth were taken to determine the density and level of root canal filling, the degree of their patency, the condition of the periapical tissues (widening of the periodontal fissure, the nature of periapical changes) and the bone tissue of the interdental septa.

Treatment results were assessed based on patient complaints, clinical picture and radiological data. The dynamics of restoration of periapical tissues was monitored using targeted intraoral radiographs 4 months, 8 months, 12 months after the start of treatment, using the modified periapical index PAI (according to Solovyova A.M., 1999), which is based on X-ray examination data and has a score for the results [47,97]:

0 points - normal x-ray picture of the apical periodontium.

1 point - the periodontal fissure is widened, the cortical plate is preserved, there is no bone demineralization, radial orientation of the bone beams of the cancellous bone.

2 points - the periodontal fissure is widened, the cortical plate is preserved, the medullary spaces of the cancellous bone are expanded, the bone beams of the cancellous bone are chaotic.

3 points - the cortical plate in the apical region is absent, the area clearing (demineralization) in the cancellous bone with preservation of the pattern bone beams.

4 points - there is no cortical plate in the apical area, an area of clearing in the cancellous bone with no pattern of bone beams, the border of the defect is clearly defined, the root apex is formed.

5 points - there is no cortical plate in the apical area, an area of clearing in the cancellous bone with no pattern of bone beams, an unclear border of the defect with an area of expansion of the medullary spaces along the periphery, the root apex is formed.

6 points - there is no cortical plate in the area of the root apex, an area of clearing in the cancellous bone with no pattern of bone beams, the root apex is not formed or is resorbed.

Results.

At a therapeutic dental appointment, 67 patients whose teeth had previously been subjected to endodontic treatment were examined. Of the examined patients, 40 (32.5%) (83 teeth (60.6%) were previously filled with resorcinol-formalin paste and 37 teeth (39.4%) with zinc oxide eugenol paste) had complaints of pain when biting. In 21 patients (29.8%), the configuration of the face was changed due to collateral swelling of soft tissues, swelling along

the transitional fold, tooth mobility; 7 patients (6.7%) had complaints of a fistulous tract. 31 patients (40.9%) had complaints about a defect in the filling, a chipped part of the tooth, food ingestion and/or injury to the mucous membrane of the cheek and/or tongue from the sharp edge of the tooth. The remaining 7 patients (26.6%) sought repeated endodontic treatment for orthopedic indications. In the control group, single-rooted teeth filled with resorcinol-formalin paste had the average value of the modified periapical index PAI according to A.M. Solovyova. was 3.3 ± 1.0 points, and for teeth filled with zinc oxide eugenol paste in the same group it was 13.8% less and amounted to 2.9 ± 1.2 points. In general, the average value of the modified periapical index in this group for single-rooted teeth was 3.1 ± 1.1 points. In the subgroup of multi-rooted teeth, in contrast to single-rooted ones, the average value of the modified periapical index in teeth filled with resorcinol-formalin paste was 3.0 ± 1.2 points, which is 6.7% less than in multi-rooted teeth filled with zinc oxide eugenol paste, where the average index value is 3.2 ± 1.2 points. The average index value in the subgroup of multi-rooted teeth is 3.1 ± 1.2 points. After 12 months of observation, in the group of teeth previously filled with resorcinol-formalin paste, the average index value was 2.75 ± 1.2 points, and in the subgroup of teeth previously filled with zinc oxide eugenol paste - 2.55 ± 1.2 points, which is less than 7.8%. From the data it follows that in single-rooted teeth previously filled with zinc oxide eugenol paste, the index value is 16.7% less than in single-rooted teeth of another subgroup. However, in multi-rooted teeth of both groups this indicator equaled and became the same - 2.7 ± 1.2 points. We noted that bone tissue regeneration was more intense in single-rooted teeth of the control and main groups (with the highest intensity noted from 12 months to 18 months of observation) than in multi-rooted teeth. At the same time, the effectiveness of repeated endodontic treatment of teeth in the control and main groups of patients was higher in teeth previously filled with zinc oxide eugenol paste than with resorcinol-formalin paste. In the main group, compared with the control group, the first radiological signs of restoration of periapical bone tissue were noted after 6 months. observations (except for single-rooted teeth previously filled with resorcinol-formalin paste). Increase in the average values of the modified periapical index PAI according to Solovyova A.M. after 18 months observations in the main group was 1.5-2 times higher (in multi-rooted teeth previously filled with resorcinol-formalin paste, 8 times) than in similar teeth in the control group, which in turn shows more intensive restoration of bone tissue in the teeth of the main group group compared to control.

Conclusions.

Repeated endodontic treatment in compliance with modern requirements for mechanical, medicinal treatment and filling of root canals promotes the restoration of bone tissue in the area of destructive periapical lesions, regardless of the type of paste, while the favorable prognosis is significantly higher in teeth previously filled with poor quality zinc oxide eugenol paste (17.3%), than resorcinol-formalin (12.5%). A retrospective analysis found that endodontic treatment of teeth diagnosed with chronic pulpitis or chronic pulpitis in the acute stage was more often carried out using resorcinol-formalin paste in patients aged 45-54 years ($30.7 + 2.4\%$), using zinc oxide eugenol paste - 35-44 years old ($33.7 + 2.5\%$), 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 retreatment of which the method of delayed root canal

filling was used (in teeth with resorcinol-formalin paste - 31.9%, in teeth with zincoxide eugenol paste - 36.4%), compared with conventional endodontic treatment (for teeth with resorcinol-formalin paste - 12.5%, for teeth with zincoxide eugenol paste - 17.3%), which is reliably confirmed by the dynamics of the increase in average index values PAI according to A. M. Solovyova.

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