

SUMMARY

This study is focused on the contemporary possibilities of the treatment of the teeth with internal root resorption. The aim was to find out the most frequent etiological factors, anamnestic information, clinical findings and forms of the pathogenesis of internal root resorption and also to determine the most convenient way of treatment of the affected teeth, including the way of definite root canal filling. Clinical part of this study included a retrospective study of 25 cases (14 men and 11 women) of teeth with internal resorption that they were diagnosed and treated in our department, in the period between 1985–2005. Most of internal root resorption cases (84%) were located in the frontal region of the oral cavity. The most frequent teeth afflicted with internal resorption (total of 8 teeth) were upper lateral incisors. The youngest among patients was 17 years old, the oldest was 55 years old and the average age of all patients was 34,6 years. The most frequent localization of internal resorption (13 out of 25 cases) was in the gingival root third, then in middle root third (7 out of 25 cases) and finally in apical root third (3 out of 25 cases). Two times we diagnosed internal resorption in the crown part of pulp cavity. In our study group, acute trauma was the most frequent cause of occurrence of internal resorption which in these cases occurred always in frontal region of oral cavity.

Clinically, internal resorption is in most of the cases asymptomatic and this is why it is diagnosed accidentally (by x-ray which is done for some other reason). Only in one patient of this group acute exacerbation of chronic inflammation was diagnosed and the patient presented with symptoms of acute pulpitis. X-ray pictures play a determining role in diagnosis of internal resorption. Interpretation of x-ray pictures during clinical follow-ups was not always unambiguous, as it is usually described in foreign literature.

The most important condition for a successful treatment in teeth with internal resorption is the on-time and perfectly done extirpation of the inflammatory vital pulp. The technique for vital pulp extirpation during treatment of internal resorptions is practically the same as in vital pulp extirpation due to other reasons. Cases of extensive bleeding from the root canal indicate remaining remnants of granulation tissue

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in the root canal. We used Chlorhexidine 0,12% for rinsing of the root

canals. Gutta-percha points in combination with non-irritating sealers were used for the definite root canal filling. Certain variations in the therapy are due to differences in the size of internal resorption.

In the experimental part of this study, we compared the quality of root canal fillings in teeth with artificially prepared internal granuloma (a preparation in the root of the teeth was performed, simulating perforating internal root resorption) after use of four, different rootfilling

techniques (central guttapercha cone, lateral condensation, Thermafil, BeeFill).

We demonstrated that conservative treatment in the teeth with internal granuloma is possible; it consists of perfect extirpation of vital pulp followed by repeated filling of the root canal with calcium hydroxide (long-term or short-term) and finally quality definite root canal filling. The experimental part provided a clear answer on the quality of root filling in each individual technique. Summarizing, the most unsuitable root filling technique in teeth with internal resorption is the central guttapercha cone (22 microleakage in 30 sections) and lateral condensation (7 microleakage in 30 sections).

Quite satisfactory results were presented in teeth filled with Thermafill

(7 microleakage in 30 sections).

The best results though, for definite root filling in teeth with internal resorption, were presented by the technique of direct application of hot

guttapercha into the root canal with resorptive defect with BeeFill instrument (4 microleakage in 30 cuts).

Generally, prognosis for success of treatment in teeth with internal resorption is quite good, in cases that the tooth is not extensively weakened because of advanced resorption. After a suitable treatment with the use of modern endodontic methods and materials, the prognosis is quite satisfactory, even in teeth with resorptive lesions with perforation.