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THE EFFECTIVENESS OF THE USE OF GLASS IONOMER CEMENT "DENTA-CEM" IN COMBINATION WITH DEEP FLUORIDATION WITH THE DRUG "DENTA-FLUO" IN THE TREATMENT OF CARIES BY ATRAUMATIC METHODS

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Abstract:

The aim of our study was to increase the effectiveness of the treatment of dental caries in "problem" patients using a non-traumatic restorative method using a more economical glass ionomer cement "Denta- Cem" in combination with a deep fluoridation drug Local "Denta-Fluo" from Dentals Pfarma Ltd.

Keywords: Atraumatic restorative treatment, ART-technique, dentophobia, remineralization, deep dentin fluoridation, deep caries, copper-calcium hydroxide, glass ionomer cements, dental caries children, carious teeth.

INTRODUCTION

Relevance of the research: Modern methods of treating dental caries involve the preparation of necrotic tissue using abrasive rotating instruments and subsequent filling of the resulting defect. The painfulness of the procedure necessitates the use of various methods of drug anesthesia for a dental patient, which in turn can cause additional undesirable conditions.

The fear experienced by patients (more often children, pregnant women, the elderly and sick people), pain during the preparation process arising from the vibration of the bur, its pressure on the tooth, the unpleasant sound of the dental unit - all this is reflected in the patient's behavior, it becomes the cause of the development of dentophobia. According to some authors, up to 46% of patients experience significant neuropsychic stress before and during a visit to the dentist, and 40% of children show a negative attitude towards the preparation of teeth using the traditional method. Various methods of manual preparation are considered by the international dental community as the main and additional method of preparation of hard tooth tissues.

MATERIALS AND METHODS:

Art-method is one of the alternative methods of treatment of pathology of hard tooth tissues, developed by dentists for "problem" patients and situations. But for filling cavities in the ART technique, it is necessary to use specially developed Art glass ionomer cements, which are quite expensive for budget dental offices and clinics.

Deep fluorination is characterized by the formation of highly dispersed CaF2 with a small particle size, creating high local concentrations of fluorine ions capable of forming fluoroappatite, which, in the case of intact keratin fibers, can completely remineralize the carious area.

In the treatment of patients with deep dental caries, the method is used deep fluoridation of dentin, including the simultaneous sequential use of fluids of different composition. Copper-calcium hydroxide, which is part of the liquid, has a more powerful disinfecting property than calcium hydroxide, which is part of medical pads traditionally used in the treatment of deep caries. With deep fluorination, precipitated alkaline copper fluoride has a permanent bactericidal effect. The preparation applied to the bottom and walls of the cavity is able to prevent secondary caries.

Research objectives: to evaluate the efficiency of using glass ionomer cement "Denta- Cem" in combination with deep fluoridation by the preparation "Denta-Fluo" for ART-technique of filling carious cavities.

Study to evaluate the effectiveness of the use of glass ionomer cement "Denta- Cem" in combination with deep fluoridation by the preparation "Denta-Fluo" with ART-technique of filling carious cavities was carried out at the educational base of the Department

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of Hospital and Clinical Dentistry of Andizhan State Medical Institute, in the private family polyclinic "OILA-DENT" in Andizhan region.

In accordance with the set goal and objectives, filling of 63 milk teeth was carried out in 43 children aged 2 to 7 years and 84 permanent teeth in 36 pregnant women at various stages of pregnancy with a diagnosis of "average caries". Patients were selected who had more than one carious tooth and the control tooth was filled without deep fluoridation. The stages of preparation of carious cavities in children 2-4 years old were carried out exclusively with hand instruments, namely, sharp excators of various sizes.

In children 5-7 years old and in adult patients, machine preparation methods were used to remove the overhanging edges of the enamel. For antiseptic treatment of carious cavities, a 0.05% solution of chlorhexidine digluconate was used.

RESULTS AND DISCUSSIONS

After antiseptic treatment, the bottom of the prepared cavity was quenched in turn with the "Denta-Fluo" preparation: first with liquid No. 2, then with liquid No. 1 and again with liquid No. 2, each layer was dried with an air stream for 15 s, then the enamel surface was washed with distilled water, the cavities were dried again and put a seal made of glass ionomer cement "Denta- Cem"

Control observations were carried out within 6 months on the appealability of any complaints.

Complaints about milk teeth filled without deep fluoridation were observed in 29 children, mostly 2-4 years old. There were no complaints about teeth filled with deep fluoridation with the "Denta-Fluo" preparation. Full marginal adhesion was preserved in 17 children of this age.

27 pregnant women with late pregnancy complained of pain from temperature irritants on teeth filled without deep fluoridation. Complaints about teeth filled with deep fluoridation with the "Denta-Fluo" preparation were reported in 4 pregnant women. The marginal fit of the fillings was broken on all teeth.

Brief conclusions are given in the table below:

Evaluation criteria	Mol. teeth (children)	Permanent teeth (female)
Number of patients	43	36
Number of teeth with deep fluoridation	93	84
with "Denta-Fluo"	43	36
Number of teeth without deep fluoridation	-	4
complaints with "Denta-Fluo"	29	
complaints without deep fluoridation	17	84

CONCLUSION

Based on the foregoing, ART restorations using glass ionomer cement "Denta- Cem" in combination with deep fluoridation with the preparation "Denta-Fluo" are quite effective in children's practice. Deep fluoridation with the drug "Denta-Fluo" gives good results in the treatment of medium and deep caries in all age groups due to the increased mineralization of the hard tissues of the tooth. For adult patients, the use of JRC, in particular "Denta- Cem '" due to low strength characteristics and insufficient adhesion to dentin, is advisable to use only as an insulating pad under composite fillings with by machine methods of preparation of a carious cavity.

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