



Clinical Evaluation of the Effectiveness of Thermoplastic Materials Used in the Dental Prosthetics of Hiv-Infected Patients

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ABSTRACT:

The article presents data on the study of the state of tissues and organs of the oral cavity of HIV-infected patients (n=47), the main group (M/G), for the period from 2020 to 2023, which were divided into groups: - 23 patients using partial removable prostheses experimental group (Ex/G-1) and - 24 patients with complete removable prostheses (Ex/G-2), as well as 20 patients with moderate severity of periodontal diseases, without HIV infection, as a control group (C/G). In the M/G of patients, reduced periodontal endurance was revealed, while generalized lesion, irregular destruction of bone tissue and the supporting and retaining apparatus of the tooth were noted on the R-me. Coating the contact surface of plate dentures with an adhesive system helps to seal the existing pores and provides pronounced smoothness of the microrelief, as well as improves the adhesive properties of dentures.

Introduction

Dentists serving patients with the human immunodeficiency virus (HIV) should know the stage of the disease, the level of CD4 lymphocytes and viral loads in the blood, register their recommendations in writing, know the basics of medical and social counseling, and know the peculiarities of patients' psychosomatics [4]. To optimize the work of a dentist providing therapeutic and preventive care to HIV-infected patients, a number of authors [6, 11] have developed different approaches to providing outpatient care, universal at any stage of HIV infection.

Currently, most of the HIV-infected are or in the near future will move to advanced stages with a variety of clinical manifestations. These patients seek medical help in various medical and preventive institutions with manifestations of HIV infection for surgical, dermatovenereological and, including dental care. In this regard, [5, 17] recommendations have been prepared,

including issues of HIV prevention in dental practice. In the methodological recommendations, a special place is given to risk factors and measures for the prevention of HIV infection by dentists.

The therapy of PR diseases in HIV-infected people is complicated by the state of progressive immunodeficiency caused by the carrier of HIV against the background of the pressure of concomitant infections, the massive use of antibiotics and other chemotherapeutic agents [12] and has its own characteristics: prescribe large doses of drugs, increase the duration of their use, carry out targeted preventive administration. The success of the treatment and prevention of secondary amentia, which is a consequence of caries and periodontal diseases, through the replacement of defects in the dentition with removable and non-removable denture structures (NP and PSP) depends on the correct preparation of an orthopedic treatment plan, on the choice of an adequate design of



dentures and materials, on their hygienic condition [1, 2, 9]. However, an analysis of the literature shows that the issues of providing orthopedic dental care to people living with HIV continue to remain little or almost unexplored.

Currently, polymer materials have confidently entered the daily practice of orthopedic dentistry, and at a certain stage of its development have become the main, if not the only, type of materials used for the manufacture of many types of orthopedic products. Polymethylmethacrylates turned out to be the most acceptable, and therefore popular, materials for dental prosthetics. They are successfully used in the practice of orthopedic dentistry as a material for BSP and PSP. The materials of the acrylate group are distinguished by remarkable strength characteristics, in the process of manufacturing dentures, they allow to achieve high precession rates, are available and convenient for work in dental laboratories. The speed and completeness of their polymerization can be easily regulated through the use of chemical catalysts or physical factors. [13, 15]. However, as it turned out, prostheses with a polymethylmethacrylate base cause pathological changes in the tissues of the prosthetic bed. Acrylic prostheses are unstable to variable chewing loads. Fractures of the bases of prostheses on average account for 80% of the number of manufactured prostheses. [10, 14]. All these reasons led to the search for new technologies. Attempts to use pads made of elastic polymer materials under the basis of polymethylmethacrylates have not completely solved this problem. In this regard, in the second half of the twentieth century, the direction of the development of prosthetic materials from elastic thermoplastic polymer materials: propylene and nylon derivatives received active support. [16]. However, laboratory and materials science studies devoted to the study of the clinical efficacy and safety of nylon prostheses have not been conducted in Uzbekistan. In this regard, domestic clinicians have to judge the qualitative characteristics of these materials mainly by information from foreign sources, and, what is alarming, by the releases of manufacturers and suppliers, which, as is known, are far from objectivity.

Taking into account the above, filling the information gap in relation to nylons, namely, the study of the clinical effectiveness of the use of PO from this material, at the

present stage of development of domestic orthopedic dentistry should be recognized as relevant.

The purpose of the study:

To determine the qualitative characteristics of thermoplastic materials and to evaluate the effectiveness of treatment in the dental prosthetics of HIV-infected patients in the clinic of orthopedic dentistry.

Materials and methods.

The studies were conducted in the period from 2020 to 2023, 47 patients were examined with a diagnosis of "HIV infection" established by a positive result of enzyme immunoassay (ELISA) with further confirmation by an immunologist (IB) in the branch of the Bukhara Clinical Laboratory of the Republican AIDS Control Center. The patients were divided into groups, depending on the chosen method of orthopedic treatment: The main group (M/G) - 23 patients: 11 patients (O/G-1) who used CPR; 12 patients (M/G-2) underwent CPR and PSP ZP prosthetics using acrylic plastic "Fluorax"; 2 – experimental group (OP/G- 24 patients, replacement of dentition defects, ZP was performed on the basis of high-tech non-dimensional thermoplastic material "Vertex termosens". The control consisted of 20 healthy patients (C/G) without HIV infection, among them, in order to compare the state of immunological parameters of PR patients (n-14) with moderate periodontal diseases (MPS). By gender: 76.2% of men and 23.8% of women%; by age: 18-25 years - 34.7%, 26-34 years -54.3%, 35-44 years -11.0% of the total number of surveyed.

When collecting anamnestic data, concomitant and transferred diseases were found out, the duration of the underlying disease, the allergological history, profession, the presence of bad habits, to what extent the patient owns and how individual hygienic care for PR and dentures is carried out. During the examination, the condition of the crowns and the ZP was taken into account, the presence of defects in the dentition, their topography and extent, the presence of defects in the dentition and the substitution of their ZP, the state of the ZP, the nature of contacts between adjacent teeth, the shape of the dental arches, including the type of bite were determined. The state of PR hygiene was assessed using the hygiene index (ONI-s index, 1969); periodontal index ((PI) according to Russel (1956)); symptom of



gingival groove bleeding to Muhlleman-Cowell (Muhlleman, 1971, Cowell, 1975), the intensity of gingival bleeding (ICD) was assessed; the need for treatment of periodontal diseases They were evaluated using the CPITN index recommended by WHO.

The functional state of the oral mucosa and microcirculation in a living organism was studied using stomatoscopy. We know that this method in orthopedic dentistry is used for the purpose of studying the CPR in patients using CPP and PSP, for this purpose a luminescent photodiagnoscope (model-611) and an immersion microscope (model-178) were used, magnifying the objects of observation from 4 to 25 times. The gnathodinamometric method collected information about the functional state of periodontal tissues, with a gnathodinamometer device of the design [3]. Periodontal endurance to loads was carried out in the dynamics of the disease before and after treatment in 2 directions: horizontal (HN) and vertical (VerN); also, with the help of X-ray (R) studies, contact SD - 1 or SD -2 and panoramic on the orthopantomograph "Ortophos-3" in the maxillofacial region were carried out .

Immunological methods were used to study the immunological state of oral fluid (OF): sIgA concentrations were determined by immunoturbidimetry (Boehringer Mannheim) using a set of reagents (J. Mancini method (1965); lysozyme activity in saliva was determined using the method proposed by Aliyev Sh.R. (1994) [8].

With a scanning electron microscope (SEM), we studied samples of acrylic plastics after appropriate fixation, subjected them to dehydration in alcohol-acetone, then dried by the critical point method in the NSR-2 apparatus and sprayed with gold in the IB-2 apparatus. They were examined in the Hitachi S405A electron microscope. Photographing was carried out using a microscope monitor screen using a Canon digital SLR camera. Micrographs and other materials obtained were processed using Microsoft Excel and Statistica-6 computer programs. Statistical processing of the results of the study was carried out by calculating the arithmetic mean (M), the standard deviation (8) and the average error of the indicator (m). The comparison of indicators between groups was carried out using the Student's t-test.

The differences between the groups were considered statistically significant at $p < 0.05$.

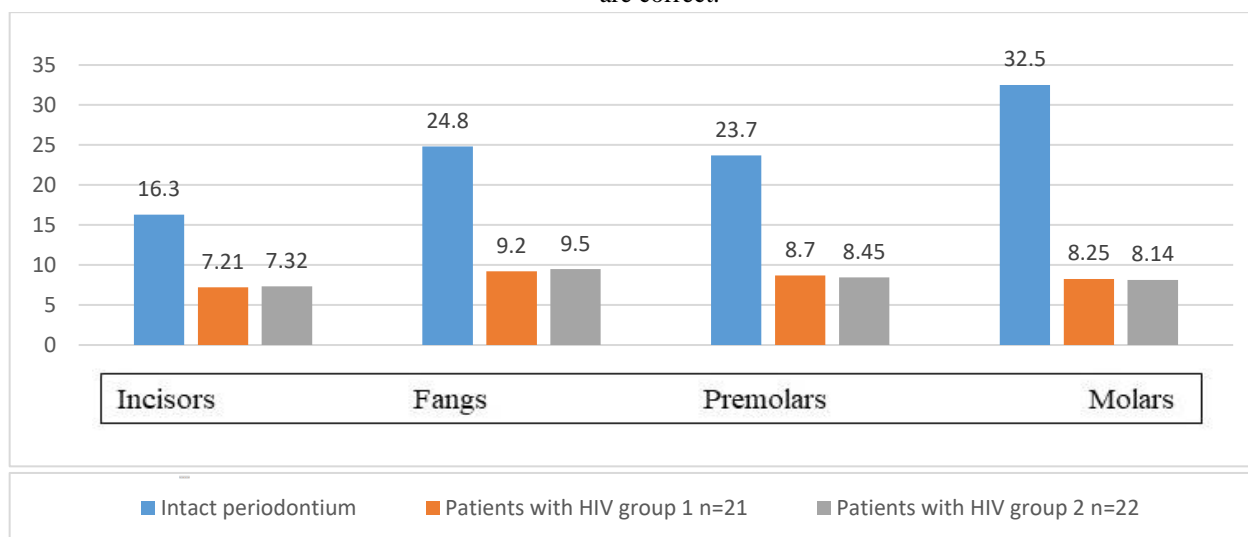
Results and their discussion. According to the results of the HIV-infected patients examined by us in M/G-1, catarrhal gingivitis was detected - 56.8%; mild periodontal inflammation (MPI) - 30.4% at the same time, $PI = 0.93 \pm 0.25$; with moderate periodontitis (MPD) – $PI = 1.89 \pm 0.21$; also revealed with pronounced destruction, confirmed by R-ci – in 52.2% of patients. Severe severe periodontitis (SPD) - in 17.4%, with a PI of 2.41 ± 0.26 ; the depth of clinical pockets reached an average of 5.8 mm, which corresponds to 3 points on the CPITN scale. Inflammatory periodontal diseases (IPD) in OP/G patients – catarrhal gingivitis - 61.4%; ulcerative necrotic – 6.3%; PLF - 27.5%, while PI - was 0.98 ± 0.27 ; PSST – 52.3%, while $PI = 2.1 \pm 0.24$; PTSD is 20.2% of cases when the PI value was 2.8 ± 0.24 .

Examination of the SOPR revealed a swollen, brightly colored desquamated gingival margin with a cyanotic tinge, easily bleeding during probing. Periodontal pockets were with abundant purulent-bloody discharge and, often, with juicy granulations. The teeth were covered with a plentiful soft plaque, there were supra- and subgingival dental stones. The weighted average value of the OHI-s index in O/G was 2.64 ± 0.27 , in OP/G - 2.7 ± 0.24 , also, the Muelleman-Cowell probe test showed that 98.2% of the examined HIV-infected patients had bleeding of varying severity and high need for periodontal care.

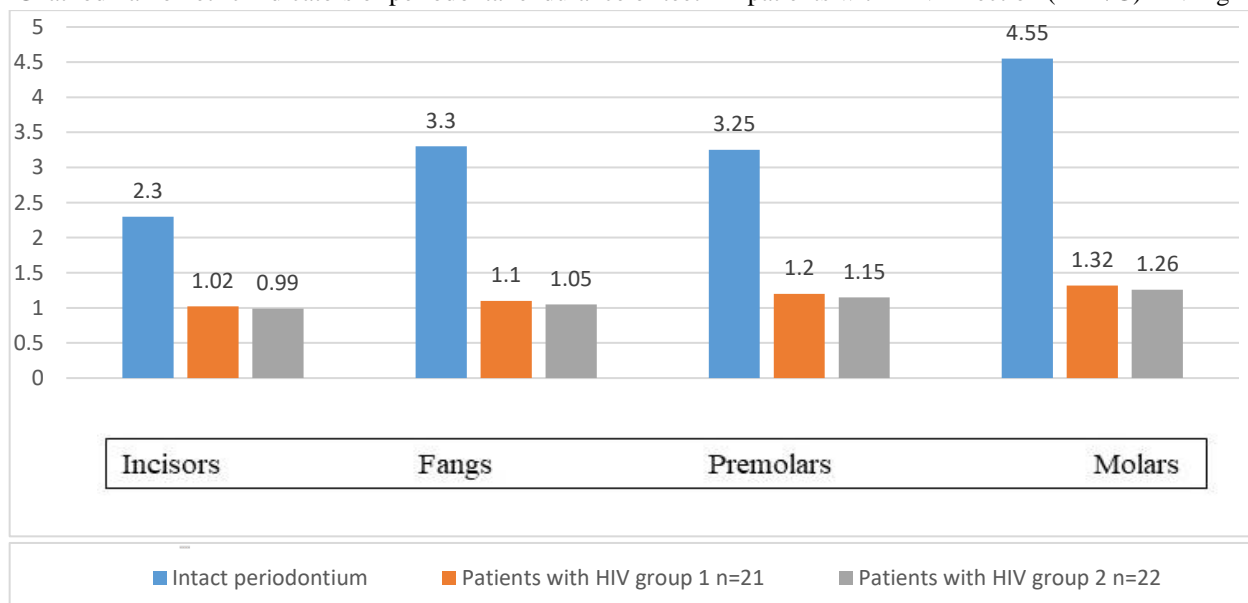
When analyzing the results of gnathodynamometry, it should be emphasized that in comparison with similar intact periodontal teeth, patients with M/G and OP/G had a sharp 2 to 4-fold decrease in periodontal endurance to VerN and HN types of loads (see Figures No. 1 and No. 2). The analysis of gnathodynamometric studies data convincingly indicates a sharp decrease in the functional state of the periodontal and a high loss of its ability to compensate for functional and structural disorders. It is obvious that HIV infection leads to severe changes in the functional state of the periodontal complex, this is manifested by a sharp drop in periodontal endurance to loads and loss of differentiation of loads in different groups of teeth. Leveling of gnathodynamometry indicators on various groups of teeth indicates a decrease in the functional state of the periodontal.



Figure No 1. Gnathodinamometric indicators of periodontal endurance of teeth in patients with HIV infection (in M/G) are correct.



Gnathodinamometric indicators of periodontal endurance of teeth in patients with HIV infection (in M/G) HN Fig No. 2.



Note: V - VerN; G - HN; * - $p < 0.05$ compared to intact periodontal

During the stomatoscopic examination of the SOPR, foci of keratinization of the CO, stagnant changes in the mucosa with the appearance of areas of fine and coarse relief were detected. The vascular pattern (CO) of the soft palate and the bottom of the PR, as a rule, was small-caliber, translucent on a general pale jaundice background. Stagnant phenomena were detected - venous vessels with a bluish tinge. The arterial end of the

capillary was tortuous and narrowed, there was varicose veins, stasis.

A comparative analysis of the dental status of HIV-infected C/G and OP/G patients revealed no significant differences in the frequency and infrastructural features of PR diseases.

In the structure of SOPR lesions in M/G, candidiasis stomatitis occupied the leading positions in frequency of occurrence - 18.4%; angular cheilitis - 12.4%; in OP/G,



candidiasis stomatitis also occupied the dominant positions - 16.8%, oropharyngeal candidiasis was observed in 2.2%; angular cheilitis - 10.6%, etc. PR lesions in HIV-infected patients were characterized by an "aggressive", recurrent nature of the course.

The results confirm that, in M/G patients, the need for various types of prostheses exceeded the availability of them. Information about the availability of PO and the need for them in the M/G of the surveyed is presented in Table No. 1.

Table №1. Patients using dentures and in need of prosthetics (%) in HIV-infected and/or

Category	% of patients who use or need a PO			Total patients
	PSP	CHSP	In the bridges	
Users	-	-	9	33
Those in need	11,6	67,2	21,2	
Users	-	-	5,8	34
Those in need	12,1	12,1	12,1	

12 out of 33 HIV-infected patients in 1-K/G had single artificial crowns, 3 (9%) patients had bridge-shaped or cantilever structures of dentures, and 2 of them had dentures that were unusable, because contact of their intermediate part with antagonists was not detected. In patients with HIV, both in O/G-1 and in O/G-2, secondary adentia was noted, which is a consequence of a violation of the entire ESR, occurring against the background of severe immunodeficiency. In accordance with the magnitude and localization of the dentition defect, 26 (78.8%) patients with HIV M/G-1 needed CPR and PSP. 6% of the patients in the examined group needed repeated prosthetics. Single artificial crowns were available in 8 out of 34 patients with u OP/G and C/G. The revealed patterns of the main dental HIV-associated symptom complex determined the need for rational correction of orthopedic treatment of diseases of the PR. Due to the significant number of lost teeth as a result of the inflammatory process of periodontal tissue (ESP) in HIV patients, there was an increase in the proportion of people with secondary adentia and in need of prosthetics.

According to the results of studies of HIV-infected people, the leading R-mi signs in the pathologies of VZP were the disappearance of the cortical plate and the appearance of osteoporosis, the presence of various destructive changes in the bone tissue of the alveolar process, also, the specific pattern was characterized by generalized lesion; a combination of horizontal and vertical atrophy of the jaw bone tissue, the formation of large bone pockets, dystrophy of the alveolar process with resorption of interdental septa, irregular destruction

of bone tissue and the supporting and retaining apparatus of the tooth.

The study of the factors that form the specific and nonspecific resistance of PR in M/G patients, in order to further improve the principles of complex treatment of basic and dental pathology, allowed us to obtain quantitative characteristics of the main factors of immunity of PR with HIV infection. In patients both in M / G and in OP /G, an imbalance of local immunity indicators was determined in the form of a decrease in the titer of sIgA and the level of lysozyme.

Analyzing the results of the study, it can be noted that HIV-infected patients both in M/G - 1 and in OP/G had a clear tendency to decrease the activity of the local immunity system compared with the data of C/G - healthy individuals. Thus, the titer of sIgA was 1.42 ± 0.2 g/l in M/G-1, i.e. it decreased by >1.5 times compared to the data of immunocompetent individuals. In OP/G, the SIDA was 1.24 ± 0.08 g/l. A similar pattern was observed with respect to lysozyme (10.6 ± 0.8 mg% in the M/G-1 and 11.2 ± 0.5 mg% in the OP/G group).

It is known that HIV infection cannot be cured today, but they need constant medical care throughout their lives. Properly selected antiretroviral therapy (ART) increases the duration of life and prolongs the quality of life [21]. Dental treatment of HIV-associated diseases of COPD and periodontal disease was carried out using traditional therapy according to the following schemes; antiseptic rinses with 0.025% chlorhexidine solution; application or infiltration anesthesia; repeated irrigation with antiseptic solution; applications of 0.3% trypsin solution; in the treatment of HIV-associated candidiasis of the SOPR and



the red border of the lips, it is prescribed; clotrimazole 10 mg for resorption in PR; with angular cheilitis, clotrimazole cream is applied topically 2-3 times a day for 14 days, and additionally keratoplasty – sea buckthorn oil daily for 14 days.

Due to the urgency of this issue, we have developed and implemented in practical healthcare an algorithm for providing orthopedic dental care to HIV-infected patients. Schematic form of the algorithm for providing orthopedic dental care to HIV-infected patients (Fig. No. 3).

Algorithm for providing orthopedic dental care to HIV-infected patients

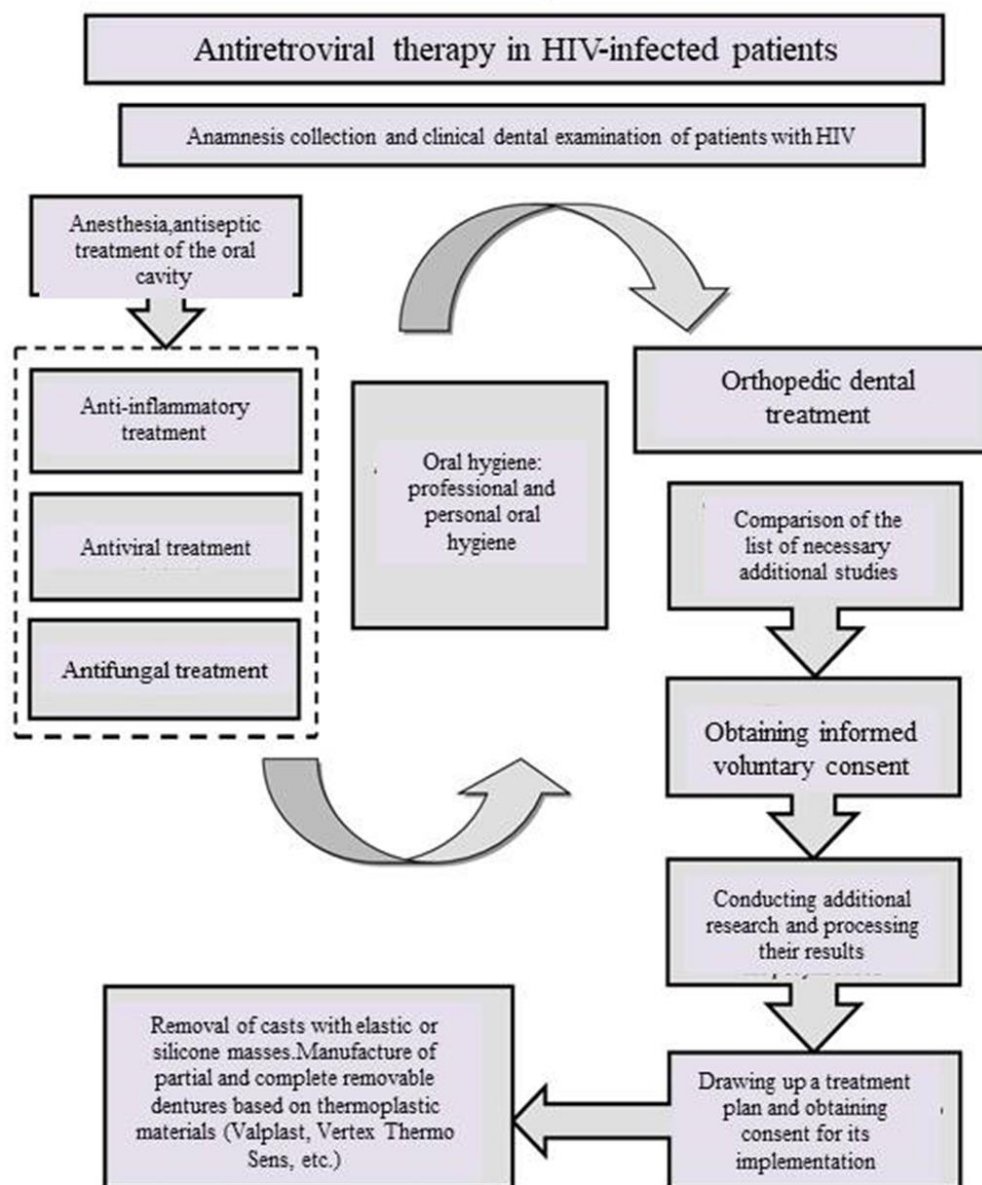




Fig. No. 3a and b. Prostheses based on "Vertex termo sens" or "Valplast" for the replacement of a dental defect in an HIV-infected patient

After comprehensive medical care for HIV-infected patients, the most pronounced positive changes were achieved 6 months after the start of therapy - patients' complaints disappeared or significantly decreased, general well-being normalized, indicators of most clinical characteristics significantly improved. Repeated examination of the SOPR revealed a decrease in the areas of keratinization of the CO, the restoration of its relief. After treatment, the condition of the SOPR normalized, its hyperemia decreased, shine and dryness disappeared, the plaque on the tongue disappeared or significantly decreased. A decrease in the swelling of the gingival margin led to some restoration of the architectonics of the gingival papillae, a decrease in hyperemia, a decrease in the phenomena of venous stagnation and partial restoration of the vascular pattern.

The stabilization of the R-th picture was noted: the condition of the bone tissue of the jaws did not undergo significant changes, in some cases a slight increase in bone density was recorded. However, a higher clinical effect was registered in OP/G, who underwent prosthetics of PSP and CSP based on the thermoplastic material "Vertex termo sens".

Six months after the therapy, the -OHI-s index in OP/G-1 was 1.92 ± 0.2 , in OP/G - 1.24 ± 0.16 , i.e. in both cases hygiene was at an average level. The probe sample showed a weak intensity of gingival bleeding in dynamics in both groups. According to the CPITN index, the need for treatment of periodontal diseases decreased significantly in O/G-1 - 2.54 ± 0.04 , OP/G - 1.89 ± 0.02 .

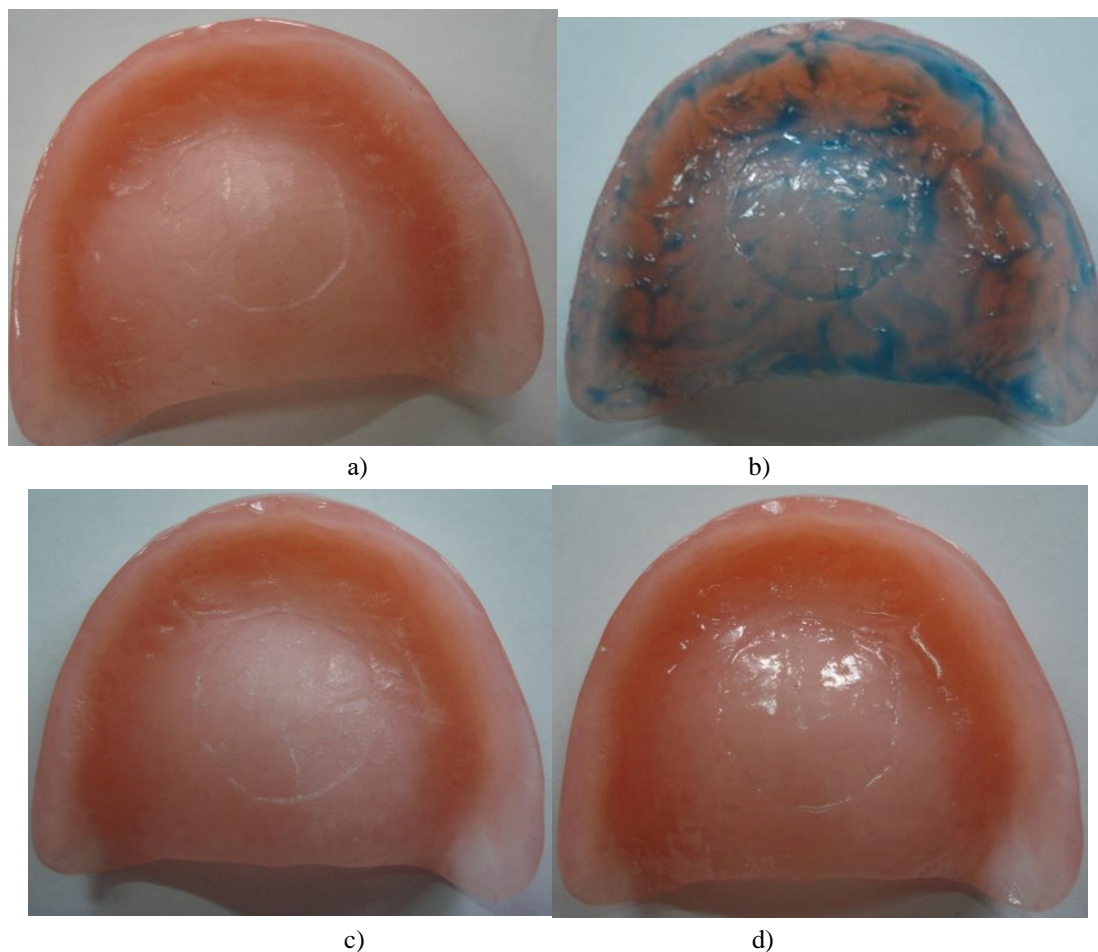


Fig. No. Device model "GC – gradia" for adhesion and coating of prostheses.



When prosthetics of HIV-infected patients using the basic material "Фторакс", to prevent microbial and fungal adhesion, as well as to prevent the state of intolerance to composite materials, we have proposed a method of shielding the contact surface of dentures with the adhesive system "Gluma comfort bond" light curing;

Fig. 3a - the surface of the prosthesis before etching; Fig. 3b - etching of the prosthesis with orthophosphoric acid; Fig. 3c - the surface of the prosthesis after etching; fig. 3 d - the surface of the prosthesis after applying the adhesive and polymerization.



However, the coating of the surface of the prosthesis made of plastic "Фторакс" adhesive system "Gluma comfort bond", leads to a more pronounced smoothness, which prevents the penetration of microorganisms into the base of the prosthesis, as well as the release of plastic ingredients from inside the prosthesis into the oral mucosa. This circumstance has a beneficial effect on the mucous membrane of the prosthetic bed and helps to reduce possible complications from plate dentures. Thus, the coating of the contact surface of plate dentures with an adhesive system contributed to the sealing of existing pores on the contact surface of dentures and

provides pronounced smoothness of the microrelief. This circumstance has a positive effect on COPD and anti-inflammatory therapy in HIV-infected patients, and also contributes to improving the adhesive properties of dentures.

The results of gnathodynamometric studies in both groups of HIV patients showed that periodontal endurance to GN and Ver.H after complex treatment significantly increased. However, in M/G-1 patients, an increase in the endurance of all groups of teeth to Ver.H relative to their values before treatment was lower than the corresponding increase in OP/G (Table No. 2).

**Table №2.**

Evaluation of the effectiveness of the effect of various treatment methods on gnathodynamometric indicators

Groups of teeth	M/G-1	OP/G	
	A	A	B
Vertical loads (Ver/N)			
Incisors	28,28	54,12	>29,98
Fangs	20,94	38,15	>28,81
Premolars	34,60	49,84	>15,73
Molars	21,90	42,40	>28,77
Horizontal loads (HN)			
Incisors	21,50	54,44	>40,73
Fangs	25,45	35,43	>13,40
Premolars	16,80	33,18	>29,53
Molars	17,26	52,18	>50,08
Average			>29,63

Note: A -% change compared to data before treatment; B - effectiveness compared to control

Thus, the increase in the endurance of incisors to VerN in M/G was +28.28% ($p < 0.01$); the corresponding increase in periodontal resistance to occlusive load on the incisors of patients with OP/G was recorded at +54.12% ($p < 0.001$). A comparative analysis of the increase in resistance to occlusal loads of the periodontal canines revealed a similar trend: the increase in the canines of M/G patients was +20.94% ($p < 0.01$); on the canines of group 2 - +38.15% ($p < 0.01$); the increase in the stability of the periodontal premolars in M/G was +34.60% ($p < 0.01$); in group 2 - +49.84% ($p < 0.01$); on molars - +21.90% ($p < 0.01$) and 42.40% ($p < 0.001$) respectively. A more pronounced effect after treatment was also recorded in OP/G of HIV-infected patients. So, in the M/G-1 group after treatment, the resistance of periodontal incisors to HN increased by 21.50%; in the M/G - by +54.44% ($p < 0.01$); the corresponding increase in canines was +25.45% ($p < 0.01$) and 35.43% ($p < 0.01$);

by premolars - +16.80% ($p < 0.01$) and +33.18% ($p < 0.001$); on molars - +17.26% ($p < 0.01$) and +52.18% ($p < 0.001$). The average effectiveness of increasing the resistance of periodontal teeth to occlusive and GN after treatment in OP/G patients exceeded the effectiveness of O/G by more than 29.63%. Gnathodynamometry data indicate a higher efficiency of orthopedic treatment performed with the use of high-tech material "Vertex termo sens".

As can be seen from Table No. 3, the indicators of the state of local immunity 6 months after complex treatment were significantly higher than the corresponding values before the therapy. At the same time, the best results in correcting the immunological profile were achieved in patients of the experimental group, i.e. in those patients whose dental row defects were replaced with prostheses based on Valplast and Vertex termo sens materials.

Table №3.

Results of immunological studies of oral fluid in HIV-infected patients after treatment

Indicators	C/G -healthy	OP/G-1		OP/G-2	
		Before treatment	After treatment	Before treatment	After treatment
Titer SIg A, g/l	2,15±0,7	1,42±0,2	1,68±0,4*	1,24±0,08	2,05±0,6**
Lysozyme level, mg %	18,4±0,9	10,6±0,8	13,8±0,5*	11,2±0,5	16,7±0,7**

Note: - $p < 0.05$, - $p < 0.01$, - $p < 0.001$ compared to the data of healthy individuals;

* - $p < 0.05$, - $p < 0.01$, * - $p < 0.001$ compared to the data before treatment.



Thus, the titer of sIgA in M/G increased compared to the indicator before treatment and amounted to 1.68 ± 0.4 g/l, while a similar factor of local immunity in HIV patients in M/G almost approached the norm (2.05 ± 0.6 g/l). The same pattern was observed in the indicators of the lysozyme level. I.e., if in M/G patients this factor of local immunity was fixed at 13.8 ± 0.5 mg% after 6 months of therapy, then in OP / G this indicator was 16.7 ± 0.7 mg%. Thus, complex therapy, coupled with dental orthopedic treatment, as a whole, had a beneficial effect on the indicators of local PR protection in patients, but it is not yet necessary to talk about the complete elimination of violations.

The analysis of the treatment results showed that the use of "Valplast" and "Vertex termo sens" materials for the replacement of dentition defects in HIV-infected patients significantly increased the effectiveness of complex treatment to restore lysozyme activity and increase the titer of sIgA.

Conclusion.

Thus, the intensity of IOP in the groups of HIV-infected patients was high, which is primarily due to severe immunodeficiency. Against the background of immunosuppression, destructive changes in the hard tissues of the teeth were also noted, which led to the formation of a large number of missing and destroyed teeth as a result of complicated caries, and this, in turn, contributed to overload and disruption of periodontal trophic.

Stomatoscopic examination of the SOPR revealed foci of keratinization of CO, stagnant changes of CO with the appearance of areas of finely and coarsely bumpy relief. PR lesions in HIV-infected patients were characterized by an "aggressive", recurrent nature of the course.

The leading specific features of the R-th picture in HIV-infected patients were the generalized nature of the lesion, a combination of horizontal and vertical atrophy of the jaw bone tissue, the formation of large bone pockets, dystrophy of the alveolar process with resorption of the interdental septa, irregular destruction of bone tissue and the supporting and retaining apparatus of the tooth. Also, the data indicate a significant decrease in the indicators of local immunity in HIV-infected individuals, which is explained by the pronounced immunosuppression observed in patients with HIV.

All HIV-infected patients orthopedic dental treatment should be carried out comprehensively against the background of ART. This approach to therapy is designed not only to improve the general condition of the patient, but also to achieve long-term positive results in the treatment of pathology of the PR. At the same time, dental treatment of HIV-associated diseases of COPD and periodontal disease was carried out using traditional therapies. All patients were taught PR hygiene, recommended therapeutic and prophylactic toothpastes and explained the need for oral care. After complex therapy, coupled with dental orthopedic treatment, we observed a significant clinical improvement in HIV-infected patients; on the SOPR, a decrease in the areas of keratinization of the CO was detected, its relief was restored; a decrease in swelling of the gingival margin led to some restoration of the architectonics of the gingival papillae, a decrease in hyperemia; on the rth picture, the condition of the bone tissue was recorded a slight increase bone density. However, a higher clinical effect was registered in OP/G of patients with HIV who underwent CPR and PSP prosthetics based on the thermoplastic material "Valplast" and "Vertex termo sens".

The average efficiency of improving the clinical condition of PR during prosthetics using the material "Vertex termo sens" compared with orthopedic treatment performed with prostheses based on acrylic plastic "Фторакс" is 38.6%. In the results of gnathodynamometry in both groups of patients with HIV, periodontal endurance to HN and VerN after complex treatment significantly increased. Also, the titer of sIgA in the M/G-1 group increased compared to the indicator before treatment and amounted to 1.68 ± 0.4 g/l, while a similar factor of local immunity in patients with HIV in OP/G approached the norm (2.05 ± 0.6 g/l); the same pattern was observed and in indicators of the lysozyme level.

Thus, complex therapy, coupled with dental orthopedic treatment, as a whole, had a beneficial effect on the indicators of local PR protection in patients, but it is not yet necessary to talk about the complete elimination of violations. All of the above gives us reason to recommend an algorithm for providing orthopedic dental care to HIV-infected patients as the main tool when drawing up a treatment plan, as well as using the thermoplastic material valplast for the manufacture of



dentures in the treatment of secondary adentia in people living with HIV.

Conclusions: During the stomatoscopic examination of the SOPR, the most pronounced changes are observed in the area of free and attached gums, which indicates the presence of PTSD in HIV-infected patients. According to the results of gnathodynamometry, periodontal endurance to HN and VerN in M/G patients is significantly reduced compared to the data of immunocompetent individuals ($p \leq 0.05$).

The specificity of the R-picture in M/G patients consists in the generalized nature of the lesion, a combination of horizontal and vertical atrophy of the jaw bone tissue, the formation of large bone pockets, dystrophy of the alveolar process with resorption of the interdental septa, irregular destruction of bone tissue and the supporting and retaining apparatus of the tooth, while a significant inhibition of local immunity factors is noted for the immunological state of the RV in people living with HIV. According to the results of clinical, functional and laboratory studies, the high efficiency of prosthetics using the basic material "Vertex termo sens" for the treatment of secondary adentia in M/ G patients has been proven. Also, the coating of the contact surface of the plate ZP with an adhesive system helps to seal the existing pores and provides pronounced smoothness of the microrelief, and also improves the adhesive properties of the ZP, while the high efficiency of prosthetics using the basic material "Vertex termosens" has been proven.

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