***Yanishen I.V., MD,***

*KhNMU, Head of Department orthopedic dentistry*

***Breslavets N.N., PhD.,***

*KhNMU, orthopedic dentistry department, assistant*

***Krichka N.V., PhD.,***

*KhNMU, orthopedic dentistry department, assistant*

**THE NEW POLYMER COATING VARNISH FOR FIXED CONSTRUCTIONS OF METAL-POLYMER DENTURES.**

Orthopedic treatment with fixed dentures has several advantages: full rehabilitation of biting function, chewing efficiency, aesthetic smile standards. Fixed prosthetic designs are usually small in size, have a short-term psychological and physiological adaptations. Restoration anatomical integrity of teeth and continuity of dentition, considering patients’ individual features as the main goal of orthopedic treatment of patients. Polymeric composition adhesive system, which allows to keep facing materials to metal surface of denture and masking color of metal. Review of national and foreign sources for investigate of coating varnishes are used to create adhesive layer, and thus formation of strong bond between metal and facing material doesn’t give a full picture of chemical composition and physical and mechanical characteristics of these materials.

The purpose of research - creating a new material with meets contemporary requirements used a bond in metal-polymer system.

Object and methods. Created material were investigation on 45 samples for the three compounds. In determining the optimum compound and comparative analysis of relevant indicators indicative properties for this class of materials were obtained: liquid heat resistance, setting time of hardening (minutes), exterior of varnish film and strength of adhesive bond, MPa. In the final phase, justify the selection compound of material for fixed constructions of dentures and made toxicological external expertise.

Results and discussion. The analysis of base properties of materials, which made in accordance various embodiments prescription compounds allowed to find out material on «compound 1» has good performance in all parameters for this type of materials. «Hardening time» is 3 minutes, which corresponds to specifications, the indicator of strength adhesive bonding of varnish film with metal surface is 7,2 ± 0,1MPa, that according to the technical specifications and above normal for 3.5 MPa and significantly p<0.001 to up this indicator in compounds 2 and 3. Appearance of varnish film and thermal fluid parameters corresponds to the norm. Manual compiled. For complex inspection of positive characteristics of new national coating varnish «Sinma-M+V», we conducted a series studies to compare physical and mechanical properties with analogue.

Conclusions. In general, it should be noted, on physical and mechanical properties developed new coating varnish «Sinma-M+V» for fixed dentures complies to requirements for this class of dental materials; and comparative characteristics showed - new national coating varnish «Sinma-M+V» according to all indicators exceeds existing analogues, and has strength adhesive bond of varnish film to metal surfaces equal 7,2±0,1MPa.