

окончанием, вкладка - с углом конвергенции боковых поверхностей в сторону срединной оси зуба от 5 до 10 градусов. Способ изготовления сборной литой штифтовой культевой вкладки (Патент РФ № 2268023).

Для предупреждения попадания ионов металлов в полость рта, профилактики токсико-аллергических реакций на металлы, коррозии вкладки, электрогальванического синдрома и обеспечение надежности протезирования, нами разработан способ протезирования при отсутствии коронковой части зуба (Патент РФ №2233141), который заключается в нанесение опак слоя керамики на всю поверхность культевой вкладки с предварительно проведенной электрополировкой. Данный способ позволяет использовать металлические литые культевые штифтовые вкладки для покрытия высокоэстетичными коронками из безметалловой керамики на оксиде циркония, IPS Empress, коронок изготовленных системой CEREC методом фрезерования. Нанесенный на литую культевую штифтовую вкладку опакосый слой керамики предупреждает просвечивание металлического каркаса.

Подводя итог, следует отметить, что ортопедическое лечение больных с разрушением коронковой части зуба с использованием усовершенствованных технологий изготовления литых культевых штифтовых вкладок позволяет снизить процент осложнений до 2,15%, против 9,9% по данным архивных материалов ортопедических отделений стоматологических поликлиник г. Самары за 2012-2014 годы.

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МЕТОД ИЗГОТОВЛЕНИЯ ЗУБНЫХ ПРОТЕЗОВ ИЗ ТЕРМОПЛАСТОВ

Аннотация

На кафедре ортопедической стоматологии СамГМУ при частичном отсутствии зубов на челюстях используют современные методы ортопедического лечения пациентов. Нами было предположено, что введение в конструкцию протеза из термопласта опорно-удерживающих кламмеров, позволит равномерно распределить нагрузку на опорные зубы, получить возможность стабилизации по плоскости, а также повысить фиксацию протеза.

Ключевые слова: зубной протез, термопласт, элемент бюгельного протеза.

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METHOD OF MAKING DENTURES OF THERMOPLASTICS

Abstract

At the Chair of Orthopedic Dentistry SamSMU we use modern methods of treating patients with partial absence of teeth. We have supposed that introduction retaining clasps into construction of thermoplastic prosthesis allows to allocate evenly the load on bearing teeth as well as make possible stabilization on a plane and improve fixation of prosthesis.

Keywords: denture, thermoplastic, element of clasp prosthesis.

Partial absence of teeth is one of the most common diagnosis in the clinic of orthopedic dentistry [1, 4]. Removable prosthetics if widely used for replacement of dentition deformity. One of the most topical medical and social problems of orthopedic dentistry is improving methods of optimal recovery of function in case of arising deformities in dentoalveolar system as a result of loss of teeth.

At the Chair of Orthopedic Dentistry SamSMU we use modern methods of treating patients with partial absence of teeth.

Acrylic plastics which technological features do not require expensive equipment are most widely used in making of orthopedic constructions. However, according to many authors, acrylic plastics, despite of numerous advantages have some significant drawbacks: for example, some orthopedic construction can cause toxic and allergic reactions and making acrylic prostheses often involves the use of retaining clasps [2, 3]. Thermoplastics can be used for making partial dentures. Among the positive features of thermoplastic prostheses we can note flexibility, elasticity, such prostheses do not require preparation of bearing teeth, highly esthetic. The indications for making thermoplastic prostheses are: partial absence of teeth – bounded defects, free-end defects, combined defects due to Kennedy classification, allergic reactions to acrylic prostheses. Prostheses are held only by dent-alveolar clasps or bandages, which are clasps of retaining type. We have supposed that introduction retaining clasps into construction of thermoplastic prosthesis allows to allocate evenly the load on bearing teeth as well as make possible stabilization on a plane and improve fixation of prosthesis [5].

The aim of our work: to strengthen the frame of thermoplastic prosthesis as well as improve fixation and stabilization by introducing in thermoplastic the molten frame with retaining clasps. Making these prostheses is carried out in following way. We gather impressions by two-layer two-step method using silicone mass (C-silicone A-silicone, Speedex, Zetaplus, polyesters). Definition of central occlusion. Definition of color and shape of artificial teeth. In dental laboratory production of models made of super plaster is made, boundaries of prosthesis are marked and boundaries of molten frame. The model is studied in parallelometer. Molten frame with clasps is modeled of wax. Then, we duplicate the model in a conventional way. The picture of molten frame is transferred to the refractory model, the sprues-feeding system is placed and metal is replaced by wax in a standard technology. After that, the part of frame which will be in the thick of thermoplastic is processed in the sander and clasp part is grinded and polished. Then, the basis of prosthesis is modeled on the super plaster model, into which a molten frame is introduced. Setting of artificial teeth is carried out. Thereafter, the dentist checks the wax construction on the model and in the oral cavity. Then, replacing of wax by thermoplastic take place in the laboratory. We gypsum model with wax construction into the bottom of cuvette, then set wax sprues diameter of 5 mm. Then cuvette is closed and filled with wax. Thermoplastic material Perflex t-crystal was used for making prostheses, which is used for all types of removable dentures. After evaporation of the wax, cuvette is opened and holes for retention are drilled in acrylic teeth. The teeth are set on a plaster bed. Then the injection oven (Smart 101) is switched on and the temperature of 280 degrees is set. At this time, both halves of cuvette are placed in hot water of 100 degrees, then the cuvette is dried, plaster in area of prosthesis is lubricated with separating varnish. The cuvette is closed by 4 screws and placed in thermal

press. When the program finishes, it is cooled at room temperature. The gathered prosthesis is taken out of cuvette and is processed using diamond cutters, rubber discs, tissue and hair brushes using polish pastes. This prosthesis has flexibility, strength, and at the same time improve fixation and stabilization of prosthesis by using retaining clasps. Molten frames which are located in the thick of thermoplastic on the oral side on the right and on the left. Fixation is reached by using molten retaining clasps and occlusal patches.

The orthopedic treatment of 47 patients with partial absence of teeth using traditional methods (10 patients) using proposed method (37 patients) was conducted at the department of orthopedic dentistry at the Chair of Orthopedic Dentistry SamSMU. The results of prosthetic patients showed that while using thermoplastic partial dentures we can evenly distribute load on bearing teeth, stabilize on a plane and improve fixation of prosthesis by introducing molten frames with retaining clasps. Patients adapt to such prostheses within 2-3 weeks. The observation was conducted in 1, 3, 6, 12 months, the results are considerable.

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АСПЕКТЫ КОНСТРУИРОВАНИЯ ЗУБНЫХ РЯДОВ

Аннотация

Методы построения протетической плоскости для конструирования искусственных зубных рядов актуальный раздел ортопедической стоматологии. Целью предлагаемого способа конструирования протетической плоскости является улучшение качества и достижение наилучшего эстетического результата при изготовлении металлокерамических и безметалловых конструкций, несъемных ортопедических конструкций на имплантатах. Методика построения протетической плоскости базируется на активном использовании технического ориентира, который по эстетическим параметрам позиционируется на лице и переносится на артикулятор. Предложенный метод позволяет наиболее рационально отрегулировать высоту коронки, угол коронки, степень ангуляции и величину апроксимальных поверхностей.

Ключевые слова: протетическая плоскость, камперовская горизонталь, зрачковая линия, технический ориентир.

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ASPECTS OF DESIGNING THE DENTITIONS

Abstract

Methods of constructing the prosthetic plane for designing artificial dentitions is an actual section of orthopedic dentistry. The purpose of proposed method of constructing the prosthetic plane is to improve the quality and achieve the best esthetic result while making sintered and metal-free constructions, irremovable orthopedic constructions on implants. The technique of constructing the prosthetic plane bases on active use of technical landmark that is located on face depended on esthetic parameters and transferred into the articulator. The proposed method allows to adjust in the most efficient way the height of the crown, crown angle, the degree of angulation and the amount of interproximal surfaces.

Keywords: prosthetic plane, kamper horizontal, pupillary line, technical landmark.

Topicality

In the modern orthopedic dentistry special attention is paid to improving the designing of artificial dentitions in irremovable prostheses. Methods of constructing the prosthetic plane for designing artificial dentitions remain imperfect and laborious [2]. Although most articulators are focused on kamper horizontal which is parallel to prosthetic plane, the parallel of cutting edge of frontal group of teeth to pupillary line is not considered [3, 4].

The purpose of proposed method of constructing the prosthetic plane is to improve the quality and achieve the best esthetic result while making sintered and metal-free constructions, irremovable orthopedic constructions on implants.

Material ad methods

During the period of 2010-2015 years on the clinical base of the Chair of Orthopedic Dentistry SamSMU 61 patient with partial absence of teeth were treated. 10 of them are patients of the control group, who received treatment by traditional method and 51 of the main group, who obtained orthopedic constructions made according to proposed by us method.

The technique of constructing the prosthetic plane is carried out in several stages. After obtaining impressions doctor fixed central occlusion using recorders of occlusion bite. Defined pupillary line on the face of patient. Then, using a silicone mass fixed the position of central occlusion, fixed the technical landmark in the silicone mass parallel to pupillary line. Defined kamper horizontal on the face of patient and fixed technical landmark parallel to it in the silicone mass. By obtained impressions dental technician made models and fixed them in the articulator in the position of central occlusion. Then installed silicone blocks with technical landmarks and transferred the landmark of pupillary line and kamper horizontal to the articulator parallel to them. Constructed prosthetic plane according to these landmarks. Further modeling of orthopedic constructions conducted according to received landmarks.

Also, to achieve esthetic perfection it is necessary to represent accurately the shape and color of teeth as well as shape of dentitions. Therefore, we used a two-dimensional picture that allows to improve much the final result. Series of clinical pictures were obtained: pictures of face – full face and profile, pictures of smile, pictures with lip retraction (teeth are closed in position of central occlusion), pictures of lip retraction (teeth are slightly opened), pictures in occlusal projection, pictures of registration of occlusion bite with the technical landmarks from the full face and profile.

Results and discussion

Examination and further orthopedic treatment of 61 patients was conducted at the Chair of Orthopedic Dentistry SamSMU. Sintered prostheses have been made in traditional way for 10 patients of control group. For 51 patients (basic group) have been made: sintered constructions on dental implants – 9 patients (17,7%), sintered bridge prostheses bearing on two or more teeth – 24 patient (47%), metal-free constructions – 18 patients (35,5%).