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COMPLICATIONS OF CLASP PROSTHETICS WITH LOCKING FASTENERS

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A B S T R A C T

The development of alternative dental services has allowed patients to choose between public dental care and private clinics. Many patients suffer from partial tooth loss at a relatively young age. Restoration of various defects with clasp and microprostheses using locking fasteners is one of the alternatives to standard treatment. At the same time, the use of fixed and removable dentures with locking fasteners of modern manufacturers require the training of doctors and dental technicians, the availability of appropriate equipment for precision casting in foundry laboratories, compliance with manufacturing technology and the correct choice of the type of locking in accordance with the characteristics of the dentition defect. The practical use of locking fasteners during dental treatment is associated with a sufficient number of complications caused by medical errors. So, in the domestic literature there is only one message about errors in dental prosthetics using lock fasteners. Particular issues related to improving the quality of the treatment and diagnostic process in orthopedic dentistry were also considered. An analysis of domestic and foreign literature shows that at present in the practice of orthopedic dentistry there is no single and formulated classification of errors and complications in dental prosthetics using locking fasteners (attachments). There is also no documentation for all stages of orthopedic treatment using this type of composite structures. In addition, as practice shows, in orthopedic dentistry with prosthetics using lock fasteners, there is a problem of conflict situations, the problem of clinical and professional assessment of medical errors and complications has not been studied, and algorithms for their solution have not been developed. Therefore, an attempt was made to study the causes of medical errors and complications in orthopedic treatment using locking fasteners in patients with partial absence of teeth and, based on the results obtained, to increase the effectiveness of orthopedic treatment. Along with this, the influence of medical and legal literacy of orthopedic dentists on the resolution of conflict situations in the provision of this type of treatment was studied.

K E Y W O R D S

Introduction

Research methods: In order to study errors and complications at the clinical stage of the manufacture and use of locking fasteners in orthodontics and microprosthetics in dental clinics of the Samarkand region, a study of patients with partially lost teeth was conducted for several years. Of the total number of patients examined, 150 had complications associated with defects in prostheses with locking fasteners. During the examination of the oral cavity and the analysis of defects were: Medical errors were identified in various parts of the prosthesis, depending on the clinical stage of prosthetics. For this purpose, 100 prostheses were made using various types of attachmen. In addition, 50 microprostheses with locking fasteners were manufactured. To determine the condition of permanent teeth and the alveolar system, 600 patients (350 men and 250 women) with Kennedy class I and II endodontic defects aged 25 to 75 years were examined. Bilateral endodontic defects were present in 416 cases; Of the 600 patients, 305 had previously been provided with prostheses with clasp and locking fixation. The reasons for replacing the prostheses were pain under the base of the prosthesis, discomfort, poor fixation, unaccustomed to the prosthesis and various complications when wearing clasp prostheses with clasp fixation. The remaining 295 patients had never used removable dentures. A total of 405 patients (181 men and 224 women) aged 20 to 65 years with Kennedy class II and III dentition defects were also examined. The defects included 230 maxillary and 175 mandibular cases. Of the 405 patients followed, 168 had previously been fitted with metal bridges, immediate prostheses, or microprostheses on attachments. The reasons for changing the prosthesis were pain under the metal bridge due to the large gap between the teeth of the abutment, fracture of the bridge, unpleasant odor from under the crown of the abutment, pain under the basis of the immediate prosthesis and various complications when wearing an attachment microprosthesis. The remaining 227 patients had not previously received orthopedic treatment. According to our study, the causes of partial tooth loss were caries and its complications, visceral diseases - 52% of patients, mechanical injuries of various nature - 12% of patients, periodontal diseases - 40% of patients. Clinical experience with the use of 195 orthodontic appliances with 384 locking fasteners for prosthetics of distal and unlimited defects of the dentition and 88 microprostheses with 94 locking fasteners for prosthetics of inclusive and unilateral marginal defects of the dentition showed that the basic patterns in the state of the periodontal ligamentous apparatus, teeth and the prosthesis itself, depending on the type of locking fastening, were the main patterns.

Clinical studies of intracanal locking fasteners have shown that the greatest number of errors and complications when manipulating prostheses with various types of locking fasteners occurs when the wrong choice of the type of orthopedic treatment and non-compliance with the prosthesis manufacturing technique. The study showed that most often errors and complications arise from the wrong choice of the type of orthopedic treatment and non-compliance with the technique of manufacturing prostheses. Clinical studies on patients have shown that errors and complications in orthopedic treatment arise for both objective and subjective reasons in the practice of specialists, especially in prosthetics with locking fasteners. Based on the analysis of the literature, the study of clinical errors in various parts of the prosthesis and our own observations, we identified all possible variants of the most common errors and complications in prosthetics with locking fixators and grouped them into:

Errors in fixing the prosthesis:

1. errors in the choice of the design of composite prostheses with locks in the presence of inflammatory diseases of periodontal tissues, atrophy of the alveolar ridge, elasticity of the mucous membrane and mobility of the tooth-abutment;

1.2 Errors associated with incomplete treatment of chronic inflammation of the supporting root (endodontic errors);

1.3 Perforation of the root wall, trauma to the bottom of the fossa and bifurcation of the abutment tooth (endodontic errors);

1.4 Insufficient filling of the root canal of the abutment tooth (endodontic error) 1.5;

1.5. error when preparing the root for a stamped tab;

1.6. perforation of the root wall of the abutment tooth under the inlay;

1.7. lack of X-ray control;

1.8. damage to the marginal gums;

1.9. errors in restoration in the partial absence of subgingival tissues;

1.10. damage and mechanical injury of the tooth-abutment (overheating of the tooth);

1.11. mechanical trauma of adjacent teeth;

1.12. violations of mixing and filling of cement in the root cavity under the inlay and inside the crown;

1.13. Absence of ledges under tabs and abutment crowns;

1.14. excessive gaps between the inner surface of the supporting crown and the stump of the tooth;

1.15. poor quality of manufacturing of support crowns;

1.16. damage to patricians of lock fasteners;

1.17. the use of a large number of locking fasteners with a small number of supports;

1.18. failure of the Patrica ball during the service life of the prosthesis (improper processing, defects in the casting of the neck of the ball, no blocking);

Errors in the ratio of removable and non-removable parts of the composite prosthesis:

2.1; the choice of designs using locking fasteners, due to defects in the dentition.

Improper use of locks;

2.4. errors in determining the rigidity of the matrix and patricia of the lock fastening;

2.5. errors in the processing of the socket of the locking matrix;

2.6. the formation of space between the removable part and the mucous membrane;

2.7. defects in the manufacture of the interlock;

2.8. Matrix defects

2.9. lack of interaction between the lock matrix;

2.9. incorrect choice of the size of the clasp mount;

2.10. wrong choice of the type of locking;

2.11. lack of parallelism of the clasp locking fastening;

2.12. Lack of space for the patient's fingers when removing the prosthesis

Lack of a comfortable place in the prosthesis for gripping; Errors in the manufacture of the removable part of the composite prosthesis:

3.2. errors in the manufacture of the prosthesis frame;

3.3. the saddle-shaped part of the frame, translucent through the basis of the prosthesis;

3.3. the space between the removable part and the mucous membrane;

3.4. errors in the manufacture of the matrix socket;

3.5. poor fixation of the prosthesis;
3.6. errors in the re-manufacture of the removable part of the composite prosthesis;
3.7. allergic reaction;
3.8. The mucous membrane of the oral cavity.
3.9. injury or toxic damage;
3.9. insufficient space for the prosthesis to cover the matrix socket of the clasp prosthesis frame;
3.10. lack of tight contact of the closing shoulders of the clasp prosthesis;
3.11. Errors in the restoration of central occlusion using clasp prosthetics.

From the above data, it can be concluded that there is an insufficient level of professional skills, a decrease in the importance of accurate and timely maintenance of medical records, insufficient control over the practical activities of dentists by those responsible for the structure and management of dental institutions. However, this indicator is not the result of the successful work of dentists. This is due to the fact that over the past decade, the management of dental clinics of the republic analyzed 273 patient complaints about the improper provision of dental orthopedic care to the population. The analysis showed that complaints were divided into two main groups: complaints about the organizational work of the dental clinic and complaints about the poor quality of dental care. It should be noted that during the same period, complaints about the organizational work of dental institutions accounted for 61% of the total number of complaints. This is due to changes in legislation in the field of health care in connection with the development of market relations, the introduction by dentists and orthopedic surgeons of modern methods of prosthetics of partial dental defects using locking fasteners, as well as an increase in the legal literacy of patients. The majority of applicants were women. At the same time, 80% were urban residents and 24% were rural. At the same time, the analysis showed that the number of written complaints submitted by patients was related to the quality of treatment and service and was distributed by age groups: women aged 40 to 67 years, men aged 50 to 68 years. 120 (44%) complaints were related to poor-quality orthopedic treatment, 95 (35%) complaints related to poor quality of service and non-compliance with ethical standards by medical personnel (doctors and nurses) in dental institutions. The remaining 50 complaints (19% of cases) were filed by citizens who received dental care in the orthopedic department. It is known that the quality of dental care for the population largely depends on the level of professional training and qualifications of specialists in this field. In this regard, orthopedic dentists must have sufficient knowledge about the details of the clinical application of the locking connection in biomechanics, which must be recorded in the patient's outpatient record (medical history and other medical documentation), with additional examination and diagnosis at the clinical stage. The results of a survey of orthopedic dentists show that 75% of medical specialists use the latest methods and technologies of prosthetics in their work, but do not fully understand the intricacies of the locking connection in biomechanics. According to the survey, the majority of doctors (65%), when discussing with patients preliminary plans for orthopedic treatment using locks, either refuse or consent to additional radiographic examination of the teeth-abutments - a prerequisite for ensuring the quality of orthopedic treatment. Such examinations were recorded in outpatient records in only 13% of cases, and there were no records of the patient's consent or refusal to prosthetics using locks. 77% of specialists said that they warn patients about possible errors or complications during orthopedic treatment using locks. According to experts, the reasons for this are the lack of specialized qualifications of orthopedic doctors for such a complex type of prosthetics (36%), insufficient material and technical support in the treatment process (15%), insufficient

equipment (8%) and insufficient time required for high-quality conduct of all stages of orthopedic treatment. Some respondents also indicated that these data are recorded in the patient's outpatient medical record. However, the results of the analysis turned out to be exactly the opposite. Not a single entry in the patient's outpatient record warned of possible errors or complications during treatment. At the same time, 70% of specialists indicated that they record all errors and complications that have arisen during orthopedic treatment using blocking fixators in the outpatient card. However, only 6% had such an entry in the outpatient records of their patients. According to the survey, 90% of specialists conducted preventive examinations of their patients about the freedom of locking fastening or modification of the retractable part of the composite prosthesis, but only 24% had such an entry in outpatient records. 63% of specialists noted that they use modern methods of orthopedic treatment in their practice, and 42% of respondents use modern materials and technologies of prosthetics, in particular, composite structures with locking clamps.

Conclusion:

Thus, our study shows that the occurrence of errors in attachment prosthetics is associated with both insufficient qualifications of doctors and the lack of proper organizational and methodological work on the part of the management of health care institutions.

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