



FREQUENCY AND STRUCTURE OF CLINICAL COMPLICATIONS DEPENDING ON THE METHOD OF FIXING A FIXED PROSTHETIC CONSTRUCTION ON DENTAL IMPLANTS

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Annotation: A clinical comparison of long-term results of implant prosthetics was carried out depending on screw or cement fixation of metal-ceramic crowns. The advantages of screw fixation are shown. Typical disadvantages of screw and cement fixation of crowns on implants have been identified.

Key words: implants, screw, cement, clinic, quality.

Despite the widespread use of dental implants as supports for fixed dentures, discussion continues about methods of fixing metal -ceramic crowns to implants [1, 4]. As you know, two types of fixation are possible: screw and cement. However, the clinical effectiveness of these fixation methods has not been described in the specialized literature [2, 3, 5, 6].

The purpose of the study is to identify clinical complications depending on the method of fixation of a fixed prosthetic structure on dental implants. materials and research methods

A dynamic analysis of the condition of 399 metal-ceramic crowns on intraosseous dental implants in 134 patients (180 with cement fixation and 219 with screw fixation) was carried out over 3 years.

Clinical and radiological analysis of crowns on implants was carried out according to 13 criteria, taking into account a number of indicators of systems for assessing metal-ceramic prostheses. The evaluation criteria reflected situations of decementation of structures, breakage and loosening of screws, the condition of veneering and occlusal contacts, peri-implant gums and bone tissue. The indices GI PMA, computer analysis of occlusion with the T-Scan system , orthopantomography and X-ray visiography were used. Results of the study and their discussion



When comparing long-term results of implant effectiveness over 3 years, rare screw fractures during screw fixation were revealed (1.7% during the third year of loading), crown loosening was somewhat more common (2.9%). With screw fixation, 14.5% of cases were accompanied by loss of the composite restoration of the crown above the transocclusal screw. Loosening of the crown retaining screw and abutment screw, as well as associated micromotion of the crown or abutment, was observed to the same extent with screw and cement fixation (1.1% and 1.0%, respectively) over 3 years, as well as occlusal supracontacts and cladding spalls (5.6% and 5.1%). At the same time, inflammatory phenomena in the peri-implant gum with cement fixation were recorded significantly more often in comparison with screw fixation: inflammatory phenomena were detected from 5.2% during the first year to 17.7% during the third; gum recession was noted during the second and third years (2.7% and 5.9%, respectively) and bone resorption (5.4% and 11.7%, respectively); the diagnosis of peri-implantitis was made in 6.7% of observations during the second and 7.4% during the third year; over 3 years, 2.4% of implants with cemented crowns were removed.

With screw fixation, inflammatory complications were much less common: over 3 years, inflammation in the gums of the implant developed less frequently by 16.5%, gum recession by 20.7%, bone resorption by 35.5%, peri-implantitis by 27.7%, implant removal - by 29.2% (Figure).

Frequency of complications during screw and cement fixation of metal-ceramic crowns to implants (average over 3 years)

Thus, the effectiveness of fixed prosthetics on implants in long-term follow-up is lower with cement fixation compared to screw fixation due to the more frequent development of inflammatory phenomena in the peri-implant gum. A common complication of screw fixation is failure of the composite over the transocclusal screw.

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