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Analysis of the effectiveness of Traumeel S in the prevention of post-implantation complications according to clinical research methods.

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Abstract. This article provides data on the effectiveness of the use of homeopathic herbal remedy Traumeel S. Provides data on reducing the number of postoperative complications and eliminating pain after its use. Has a pronounced anti-inflammatory effect, as evidenced by the regression of clinical signs of local inflammation in patients after dental implantation, which is proven by the study

Keywords: peri-implantitis; Traumeel S; post-implantation complications; prevention; inflammation
УДК

Relevance. Special attention in modern dental practice deserves a method of restoring chewing efficiency - with the help of dental implants. When carrying out this type of treatment, complications occur in 2-18% of cases, which significantly reduce the effectiveness of this type of rehabilitation of patients [3, 6]. Currently, in our country, the operation of dental implantation has become widespread and is a fairly popular type of dental care for partial or complete absence of teeth. Aseptic inflammation associated with tissue trauma during dental implantation, without active anti-inflammatory therapy, often passes into an extended manifest stage of inflammation, which ultimately leads to rejection of the installed implants [4, 9].

The analysis of domestic and foreign literature sources showed that the frequency of complications during dental implantation, according to different authors, remains quite high and ranges from 2-18% [1, 7].

It is customary to single out intraoperative complications (arising during the operation itself) as well as early and late postoperative complications. Early postoperative complications include: severe pain syndrome, hematoma, suture divergence, inflammatory infiltrate and suppuration of the postoperative wound, as well as late complications: bone resorption, reimplantitis [2, 5].

In recent years, physiotherapy methods have been used to prevent complications in dental implantation, aimed at increasing the reserve and adaptive capabilities of the body and having a pronounced anti-inflammatory effect, but this does not fully solve the problem [8, 10]. It is still relevant to further develop methods

of physiotherapy aimed at compensating for microcirculatory disorders and enhancing regenerative and reparative processes.

Purpose of the study. To conduct a prospective, randomized, open study of the effectiveness of Traumeel S in the prevention and treatment of inflammatory complications of dental implants.

Materials and methods of research. To achieve this goal, the results of 80 patients were analyzed, including 34 men and 46 women with diagnoses of "Peri-implantitis" and "Mucositis" aged 19 to 65 years. The diagnosis was made according to the classification of complications at various stages of dental implantation using radiographic criteria for assessing the severity of complications in compliance with ethical standards and rules. All patients were divided into 2 groups: group 1 - the main one (42 patients), who will use the developed method of dental implantation using the DICOM program to prevent early (hematoma, bleeding, soreness) and late (peri-implantitis, mucositis) complications using homeopathic Traumeel S. group 2 - comparison group (38 patients), who will use the standard method of dental implantation using data processing programs. Ketorol Pro, a non-steroidal anti-inflammatory drug, was used to prevent both early and late complications. Statistical processing of the results was carried out using parametric and nonparametric research methods.

Research results. The characteristics of the pain syndrome in patients who completed the surgical stage of dental implantation included a dynamic assessment of the frequency, severity and duration of complications.

The distribution of patients with peri-implantation mucositis by age and gender is presented in Table 1.

Table 1. Distribution of patients with peri-implantation mucositis by age and gender.

Gender	19-30	31-50	51-60	Bcero
men	4	5	6	15
women	3	12	9	24

The distribution of patients with dental peri-implantitis is presented in the table 2.

Table 2. Distribution of patients with dental peri-implantitis.

Gender	19-30	31-50	51-60	Bcero
men	5	6	8	19
women	2	13	7	22

Among patients with peri-implantation mucositis, women aged 31-50 years (30.7%) significantly prevailed $\chi 2$ (Wilconson's test) = 6.23, $p<0.05$.

Among patients with dental peri-implantitis, women aged 31-50 years significantly prevailed (31.7%) $\chi 2=5.972$, $p<0.05$.

In patients of the main group, after dental implantation, a course of electrophoresis was performed on the 2nd-3rd day of the postoperative period of pain in 13.6% of patients, and in a mild form; only 1 patient (2.4%) indicated the presence of severe pain.

5-7 days after the operation, mild pain persisted in 10.8%. After 8-10 days, only 1 patient complained of "trace" sensations of pain in the surgical area.

In patients of the control group, pain syndrome 2-3 days after the operation of dental implantation significantly ($p<0.01$) manifested itself more often in 76.5% of patients than in the main group, and in the vast majority of patients (73.4%) there were strong and moderate pain. By 5-7 days of the postoperative period, the frequency of detection of pain syndrome decreased by 26.6%, and in the structure of the pain syndrome in 53.2% of patients by this time, mild and moderate forms were detected equally often (26.6% each). After 8-10 days of dental implantation, 9.5% retained a mild pain syndrome, in 2 patients (5.3%) moderate pain radiating along the branches of the trigeminal nerve, pain in the area of implantation in the lower jaw persisted throughout the entire period. weeks after implant placement.

Every second of the patients in the control group with a moderately severe pain syndrome was forced to change their "pain" behavior by taking an analgesic (Ketonal), limiting functional loads, oral hygiene, and the usual diet.

Significantly less frequent occurrence, more pronounced manifestation, duration and active positive restructuring of the pain syndrome, noted in the early postoperative period in patients with the main

groups within the given study design objectified the pronounced analgesic effect of ultraphonophoresis.

During a dental examination on the first day of the post-implantation period, 9 patients (21.4%) of the main group in the area of dental implantation showed severe hyperemia of the mucous membrane and edema. Soft tissue edema and associated asymmetry of the face on the side of implantation and difficulty in opening the mouth were detected in isolated cases (1 patient; 2.4%). On the 3rd day of the post-implantation period, there was a significant decrease in edema and hyperemia in 93.4% of patients.

Insignificant bleeding in the area of implantation and sutures, more often occurring after mechanical impact (brushing teeth, eating), was noted in 13.5% of patients. The hemorrhagic symptom was of a transient nature, completely resolved in 2-3 days after the operation. In 2 patients of the main group, the appearance of postoperative hematomas of the oral mucosa, limited to the area of one dentogingival segment, was noted, which was associated with the trauma of the operation.

On the 5th day of the implantation period, all patients of the main group (100%) showed complete leveling of hyperemia and mucosal edema.

In turn, 82.1% of patients in the control group on the 2nd-3rd day of the postoperative period noted local inflammation (edema, hyperemia) in the area of implantation - signs of mild/moderate perimucositis (46.8% and 21.4%, respectively). Bleeding of the oral mucosa in the area of implant placement was detected in 57.6% of patients; 12.5% revealed the formation of serous fibrinous plaque in the suture area. The frequency of moderate mucositis detected in 5 (13.16%) patients, in terms of the area of implantation was 21.4%.

Mucositis phenomena in 20.6% of cases of implantation were combined with mild or moderately pronounced edema with facial asymmetry, difficulty opening the mouth. By the 7th day of observation, moderately pronounced swelling of the soft

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tissues of the face persisted in 1 patient (2.6%). Bleeding of the mucosa in the implantation zone by day 8 was stopped in all patients, in 6.2% of patients, surgical wounds healed by secondary intention.

In patients of the control group, postoperative hematomas of the oral mucosa and facial skin developed significantly more often ($p<0.01$) (35.7%) than in the main group, and the lesions were more extensive and often persisted up to 5 days after surgery.

Paresthesia on the skin in the chin area, which persisted for more than 5 days, was noted only in patients in the control group.

Many patients in the control group (65.6%) had bad breath in the early postoperative period. The symptom of halitosis was detected in 64.7% of patients in the control group on the 3rd day after dental implantation, more often it was accompanied by symptoms of inflammation of the mucosa in the area of implantation (mucositis) with edema, hyperemia, the appearance of fibrinous plaque in the area of the sutures, developed against the background of difficult hygienic care for oral cavity.

Conclusions. Traumeel S has a pronounced anti-inflammatory effect, as evidenced by the regression of clinical signs of local inflammation in patients after dental implantation..

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