

vaginal delivery on the scar tissue. Low amount of bleeding influences positively the body's homeostasis, thus reducing the occurrence of developing complications. 3 out of 4 women from the basic group had a blood loss of 200-300 ml., whereas 3 out of 4 patients within the control group had a 600-700 ml amount of blood loss. Hence, the amount of blood loss is highly essential for the body, but yet common for cesarean surgeries. Hypotonic hemorrhage was recorded in 3% of cases in the basic lot and 23% in the control group, thus being the most common complication in births on a scarred uterus.

The interrelation of maternal anemia and labour management was analyzed within the study. There was an increased risk of postpartum anemia in women who gave birth via a caesarean section. Therefore, anemia of varying degrees developed in 60% of births on scar tissue. Vaginal birth on scar tissue showed a much lower risk of developing anemia, which was registered in only 16% of cases (RI 0.06-0.26,  $p < 0.0001$ ). Conclusively, the results are more beneficial for maternal health in vaginal births on scar tissue than births via a cesarean surgery.

Labor results in scar tissue births showed that in 86% of cases births occurred spontaneously. Vacuum was applied in 4 cases of fetal distress, and episiotomy in 10% of cases.

The hospital stay was much lower for the basic group and ranged from 1 to 5 days averagely while the mean duration was  $2.43 \pm 0.84$  days, the median being 2, whereas the hospital stay within the control group ranged from 2 to 8 days, the mean duration being  $3.26 \pm 1.18$  days, and the median - 3. Based on these results, there was attested an increase in day / bed costs in patients with cesarean surgeries. Therefore, vaginal birth on a scar tissue is more cost-effective.

### Conclusions

1. The labor management on scarred uterus is determined by several important factors. The following data should be assessed in order to admit the patient to the labor admission test (LAT): number of previous pregnancies and their outcomes, the interpregnancy interval, the cause of the previous cesarean pregnancy, vaginal delivery experience, satisfactory thickness of the uterine scar, the absence of pain on the scar, the cranial presentation of the fetus, spontaneous labor onset.

2. Based on our study results, we have concluded that vaginal birth approach presents a lower impact on women's health. A lower risk of developing anemia after bleeding has been observed.

3. Perinatal results in case of a scarring uterine birth were approximately equally distributed in both groups, with 3 out of 4 children being assessed with 7-8 points via Apgar score. Therefore, the labor management on scar tissue via cesarean or vaginally does not affect the perinatal outcomes.

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## ALGORITHM OF INTERDISCIPLINARY TREATMENT OF PATIENTS WITH OCCLUSION ABNORMALITIES COMPLICATED BY PERIODONTIUM PATHOLOGY

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**Summary:** This article deals with the problems of occlusion abnormalities treatment of adult patients with periodontal diseases. We analyzed 15 clinical observations of patients with generalized periodontitis with intact tooth rows. It was carried out comprehensive rehabilitation of patients on the proposed medical - diagnostic algorithm, detected the necessary participation of dentists of various specialties. On the basis of the study it was found that the use of modern non-removable devices using the principle «Edgewise» allows to apply small orthodontic forces to normalize abnormal position of individual teeth and adnormal form of dentition, maximally eliminate additional boundary periodontal trauma and redistribute chewing load.

**Key words:** periodontal diseases, occlusion anomalies, adults, Edgewise technique, stripping, remineralization, splinting.

**Relevance.** Treatment of adult patients with tooth-jaw deformities that developed against the background

of periodontal diseases is an urgent problem in dentistry, due to pronounced violations of morpho-functional-aesthetic optima.

According to Bragin E.A. and Vakushina EA (2003), Grigorenko P.A. (2002), Gioeva Yu.A. with co-authors (2005) and a number of other researchers, it is established that anomalies of occlusion in 35-37% of clinical observations are combined with inflammatory periodontal diseases, determined by the interaction of

two main factors - overload of teeth and weakening of periodontal tissues. These pathological processes significantly complicate the work of dentists of various specialties due to the need for additional manipulations: hygienic; physiotherapeutic; surgical, orthopedic and orthodontic (Fig.1).



Fig. 1. Closing of the dentition rows of the patient (27 years) with the generalized form of periodontitis against the background of intact dentition in the position of habitual occlusion.

Under the influence of non-functional loads, the forces of masticatory pressure move individual teeth or their groups in one or several planes. The most common violation of angulation with simultaneous rotation of the frontal teeth as a result of their vestibular displacement in the sagittal plane on both one and two jaws simultaneously. As a result of such movements of nearby teeth, contact points are lost, which leads to a chronic trauma of the interdental papillae. Without timely treatment of these combined occlusive disorders, deformations progress and gradually exacerbate the traumatic situation in the periodontium, which makes it difficult or impossible to conduct rational dental prosthetics.

**Aim of the study.** The aim of the study was to increase the role of orthodontists in planning and carrying out complex treatment of adult patients with edge periodontal disease.

The objectives of the study included:

1. The use of modern non-removable orthodontic Edgewise techniques in conjunction with extraoral devices;
2. Creation of optimal conditions for rational dental prosthetics;
3. Splicing with modern non-removable splint-retainers.

**Materials and methods of research.** To solve the set tasks, we proposed our own therapeutic and diagnostic algorithm for rehabilitation of 15 patients aged from 25 to 35 years with a generalized form of periodontitis with intact dentition. During the work, clinical, X-Ray and biometric methods of investigation were used. During the complex treatment, therapeutic, orthodontic and orthopedic methods were used.

The therapeutic stage included the professional cleaning of teeth with the AIR-FLOW apparatus, including the removal of hard and soft dental plaque and polishing the enamel with adaptable pastes (Fig. 2).



Fig. 2. Conducting professional cleaning.

Locally we used antibiotics according to indications, antifungal, desensitizing, immunostimulating and vitamin therapy. With hypertrophy of the gingival margin, sclerosing therapy was performed. Therapeutic treatment was carried out on the basis of modern dental technology of the dental polyclinic of our university under the guidance of a doctor-periodontist.

The orthodontic stage included the consecutive elimination of anomalous occlusion, as close as possible to the physiological, the conductive selective sanding and fixation of non-removable combined retainers, simultaneously acting as splints (Fig. 3).



*Fig. 3. Closing of dentition before treatment (a), intermediate result after 5 months from the beginning of orthodontic treatment (b).*

All patients in the active period were treated with a straight wire technique with a .018-inch working groove. In all phases of orthodontic treatment, nitinol, titanium-molybdenum and steel wires were used according to the principle from a smaller section to a larger one, from least forces to large ones.

The orthopedic stage of rehabilitation consisted in splicing due to the fixation of non-removable splints-retainers (Fig. 4).



*Fig. 4. The Installation of the combined splint- retainer.*

In all 15 cases, a combined belt anchor was used.

Let's give a clinical observation (Fig. 5).



*Fig. 5. Closure of the dentition of patient C. before treatment in the position of habitual occlusion.*

A 26-year-old patient complained of impaired appearance during conversation, smile, seizure, eating,

and teeth mobility. With an external examination asymmetry of the right and left halves is not clinically detected, the height of the lower third of the face is reduced. When examining the oral cavity, neutral occlusion in the lateral sections was diagnosed, a sharp protrusion of the superior frontal teeth, deep incisal

dissection, a sagittal slit of 6 mm, a sharp violation of the occlusive curve of the spine, a diastema and tremors on the upper jaw, a sharp congestion of the frontal lower teeth, pathological mobility 1.2, 1.1, 2.1, 2.2, 3.2, 3.1, 4.1 and 4.2 teeth of the 2nd degree (Fig. 6).



Fig. 6. OPTG patient before treatment.

Based on the studies conducted, a diagnosis was made: neutral occlusion in the lateral sections. Deep incisal disaclusis. Protrusion of the superior frontal teeth. Diastema and tremors on the upper jaw. In OPTG bone resorption at 1/3 of the root length in the region of 1.3,

1.2, 1.1, 2.1, 2.2, 2.3, 3.6, 3.3, 3.2, 3.1, 4.1, 4.2, 4.3, 4.5 and 4.6 of the teeth. Chronic generalized periodontitis of moderate severity.

The active period of treatment with non-removable equipment was 15 months (Fig. 7).



Fig. 7. Intermediate result after 8 months from the beginning of orthodontic treatment. On the upper jaw, a NiTi arc with a cross section of  $0.46 \setminus 0.46$  mm (a) is established, the remaining gaps between the teeth are closed with a continuous elastic chain. On the lower jaw, the steel arc with a cross section of 0.35 mm (b) is reinforced with elastic ligatures.

Before the removal of the bracket system, careful selective polishing of pairs of teeth-antagonists-was carried out. The result obtained was fixed in a straightforward manner by a non-detachable combination tire assembly.

At the stages of treatment, the patient was separated by medium-grain strips and further closing of the remaining interdental spaces with an elastic chain with a short step to prevent the formation of a "dark triangle" in the area of the lost interdental papilla as a result of chronic trauma by a food lump (Fig. 8).

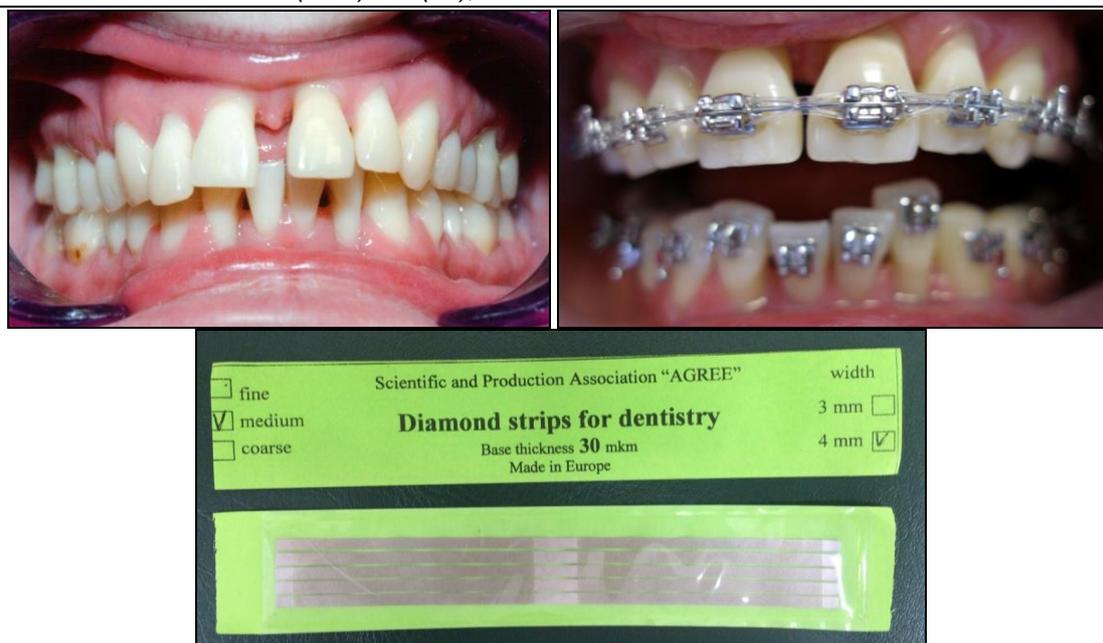


Fig. 8. During the treatment stages, the patient was subjected to a striping (separation) to prevent the formation of a "dark triangle" in the area of the lost interdental papilla as a result of chronic trauma by a food lump.

Stages of installation of the combined splint-retainer, represented by the following steps: 1) fitting and subsequent installation of the wire retainer on pre-prepared oral surfaces of the teeth; 2) fixing the retainer to a photocurable fluid composite; 3) preparation of belt conveyor with the help of a trowel and a snapper: the

ribbon is directed to the surfaces of the teeth adjacent to the summer retina without creating wrinkles and air bubbles; 4) conducting light polymerization; 5) holding a "sandwich" - technique; 6) conducting selective sanding; 7) the final grinding and polishing of the finished structure - the tire-retainer (Fig. 9).

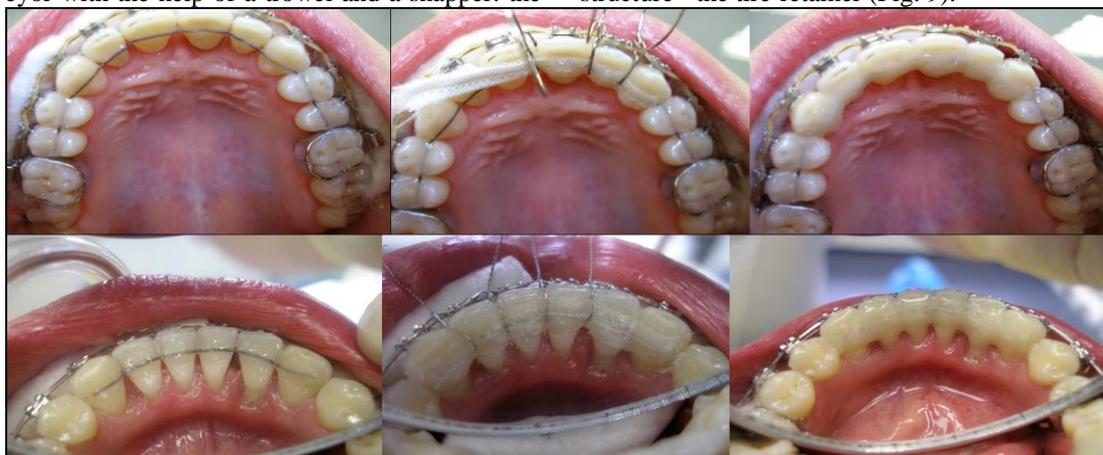


Fig. 9. Stages of installation of the combined splint-retainer. The final view of the non-removable combined splint-retainer in the mouth, mounted on the upper jaw and lower jaw.

On OPTG after treatment - a picture of chronic generalized periodontitis in remission (Fig. 10).



Fig. 10. OPTG patient after treatment.

Full period of complex rehabilitation according to the proposed algorithm was 15 months (Fig. 11).

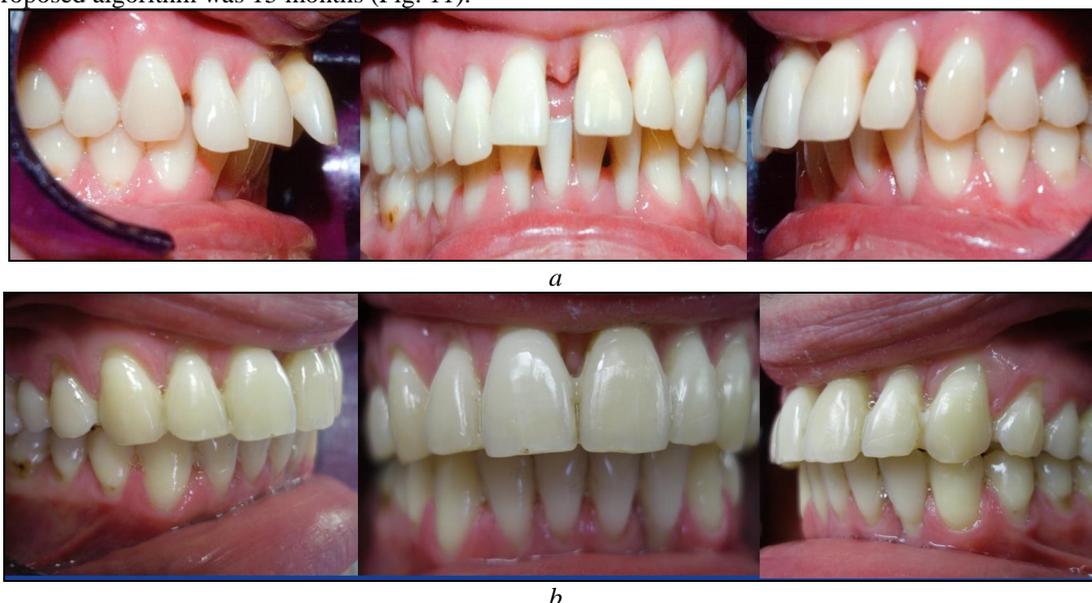


Fig. 11.

Closure of the patient's dentition before treatment (a), closing of the patient's dentition after treatment (b).

**Results of the study.** In the process of the work, the following results of the research, received personally by the authors, were obtained:

- 1) 15 patients aged 25 to 35 years were examined;
- 2) 15 outpatient cards of form 043-U are filled and processed;
- 3) 15 pairs of gypsum diagnostic jaws and 15 pairs of control models were manufactured;
- 4) 30 orthopantomograms were studied;
- 5) 30 professional teeth cleanings were carried out;
- 6) 30 medical recommendations were given;

**Conclusions.** Thus, the use of modern non-detachable arc devices of the Edgewis principle allows:

1. Apply small orthodontic forces, without fear of causing additional resorption of cortical closure plates;
2. Normalize the anomalous position of individual teeth and anomalous forms of dentition due to the use of superelastic nitinol archs, which have the effect of remembering the shape;
3. Maximum exclusion of additional trauma of the marginal periodontium;

4. To fix the obtained result in a direct way with a non-removable, highly aesthetic, atraumatic, splinting construction.

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