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COMPREHENSIVE PREVENTION AND MANAGEMENT OF GENERALIZED PERIODONTITIS IN PREGNANT WOMEN: CLINICAL AND PATHOGENETIC ASPECTS

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Abstract

Periodontal diseases are highly prevalent among pregnant women and are closely associated with hormonal, иммунологical, and microcirculatory changes occurring during gestation. These physiological alterations increase susceptibility to gingival inflammation and exacerbate existing periodontal pathology. Poor oral hygiene and insufficient preventive care further contribute to disease progression and complications.

Keywords: pregnancy, generalized periodontitis, gingivitis, oral hygiene, prevention, phototherapy, Actovegin

Introduction

Objective

To assess the clinical effectiveness of an integrated preventive and therapeutic approach in the treatment of moderate generalized periodontitis in pregnant women.

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Materials and Methods

A cohort of pregnant women diagnosed with moderate generalized periodontitis was examined at different stages of pregnancy. Periodontal treatment was primarily carried out during the second trimester, which is considered optimal due to stabilization of maternal hemodynamics, completion of organogenesis, and improved immune status.

All patients underwent comprehensive periodontal examination, including assessment of oral hygiene (OHI-S index), gingival inflammation (PMA index), and periodontal condition. Individual oral hygiene training was provided, followed by professional dental cleaning, including scaling and root planing.

Participants were divided into four groups:

- **Control group:** standard periodontal therapy;
- **Main group 1:** additional topical Actovegin therapy;
- **Main group 2:** adjunctive phototherapy using the “Duna-T” device;
- **Main group 3:** combined therapy (phototherapy + Actovegin).

Treatment duration was 10 days with follow-up clinical monitoring.

Pregnancy induces profound systemic changes that significantly affect oral health. Elevated levels of estrogen and progesterone enhance vascular permeability and promote inflammatory responses in periodontal tissues. Additionally, alterations in immune function and shifts in oral microbiota contribute to increased susceptibility to gingivitis and periodontitis.

The prevalence of periodontal diseases among pregnant women remains high, and their potential association with adverse pregnancy outcomes, including preterm birth and low birth weight, underscores the importance of timely diagnosis and effective management.

Despite the availability of preventive measures, many pregnant women demonstrate inadequate oral hygiene practices, highlighting the need for optimized комплекс treatment strategies.

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Materials and Methods

The study included pregnant women aged 20–35 years diagnosed with moderate generalized periodontitis. Clinical examination was conducted using standard periodontal indices: OHI-S (oral hygiene index); PMA index (gingival inflammation); CPI (community periodontal index).

All patients received individualized treatment plans based on clinical findings. Oral hygiene education was performed over multiple visits, with monitoring at 2, 7, and 14 days. Professional periodontal therapy included removal of supra- and subgingival deposits using ultrasonic instruments and manual curettes, followed by polishing and application of fluoride-containing agents.

Adjunctive treatment methods included:

- topical Actovegin applications;
- phototherapy using alternating red and infrared light;
- combined therapy integrating both modalities.

Results

At baseline, all groups demonstrated poor oral hygiene, high levels of gingival inflammation, bleeding, and increased tooth mobility.

Following treatment, significant improvement in clinical parameters was observed across all groups. The most pronounced therapeutic effect was recorded in the combined therapy group, which showed:

- up to 84–92% reduction in inflammatory indices;
- marked decrease in gingival bleeding;
- reduction in periodontal pocket depth;
- improvement in gingival morphology and tone;
- decreased tooth mobility.

Patients also reported subjective improvements, including elimination of pain, reduction of halitosis, and enhanced oral comfort.

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However, postpartum evaluation revealed partial recurrence of inflammatory signs, particularly in the control group, while the combined therapy group maintained significantly better outcomes.

Discussion

The findings confirm that pregnancy-related физиологические изменения significantly influence periodontal health. The observed improvements highlight the importance of integrating preventive and therapeutic strategies.

Phototherapy demonstrated anti-inflammatory and microcirculatory benefits, while Actovegin contributed to tissue regeneration and metabolic support. Their combined use produced a synergistic effect, leading to superior clinical outcomes. These results are consistent with contemporary literature emphasizing the role of комплекс periodontal therapy in improving both oral and systemic health outcomes in pregnant women.

Importantly, the recurrence of periodontal inflammation in the postpartum period indicates the need for continuous monitoring and repeated профилактические interventions.

Conclusion

A comprehensive approach to periodontal treatment in pregnant women, including professional oral hygiene, patient education, and adjunctive therapies, significantly improves clinical outcomes.

The combination of phototherapy and topical Actovegin is the most effective treatment modality, achieving remission in up to 96% of cases.

Regular follow-up and repeated preventive care in the postpartum period are essential for maintaining long-term periodontal health.

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