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PRP THERAPY AS A WAY TO PREVENT IRREVERSIBLE CONSEQUENCES OF MODERATE HYPERTROPHIC GINGIVITIS IN PREGNANT WOMEN

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Abstract

This article analyzes the medical and economic effectiveness of combination treatment for moderate to severe hypertrophic gingivitis in pregnant women, including PRP therapy. This alternative treatment can shorten the treatment period and prevent complications. Although hypertrophic gingivitis of pregnancy is considered a reversible condition, its complications are irreversible: increased dental caries, tooth extraction, and tooth mobility. Hypertrophic gingivitis of pregnancy is one of the factors that increases the risk of preterm birth.

Keywords: Alternative treatment of hypertrophic gingivitis of pregnancy, severe hypertrophic gingivitis of pregnancy, platelet-rich autologous plasma (PRP), PRP therapy, traditional treatment of hypertrophic gingivitis of pregnancy.

Introduction

Along with caries, gingivitis gravidarum is the most common dental disease in pregnant women. According to various studies, the incidence of inflammatory periodontal diseases in pregnant women reaches 69–90% [1,3]. In complicated pregnancies, the prevalence rates are higher [2].

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Hypertrophic gingivitis of pregnancy (HGP) is caused by a combination of local factors (dental plaque, mineralized deposits, microbial biofilms) and systemic changes in hormonal status associated with gestation. Changes in estrogen and progesterone levels affect microcirculation, vascular permeability, and the immune response of periodontal tissues [4].

Recent studies have established a link between inflammatory periodontal diseases and adverse pregnancy outcomes, including preterm birth [7,8,9]. GGD is considered not as a direct cause, but as a risk factor that enhances the systemic inflammatory response [4,7].

Although GGD is considered a reversible condition, without timely treatment, irreversible dental consequences may develop:

- increased caries;
- pathological tooth mobility;
- deepening of periodontal pockets;
- the need for surgical intervention;
- progression to chronic periodontitis.

In recent years, regenerative methods of treating periodontal diseases, including the use of autologous platelet-rich plasma (PRP), have been actively researched. The mechanism of action of AP is associated with the release of growth factors (PDGF, TGF-β, VEGF) that stimulate angiogenesis, repair, and modulation of the inflammatory response.

The inclusion of APT therapy in the complex treatment of GGB is of scientific and practical interest given the restrictions on the use of systemic anti-inflammatory drugs in pregnant women.

Materials and Methods

In the pathology department of the TSMU maternity hospital, 52 patients were selected according to medical criteria, and the main and control groups were formed, similar in terms of disease severity (severe GGB in 62%, 38% with

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moderate disease), PMA indicators (mean papillary-marginal-alveolar index – 0.560), and mean oral hygiene index OHI-S – 2.9 (unsatisfactory OHI starts at 3.1). The main group received comprehensive treatment with a course of TAP therapy (AL). The control group received traditional treatment (TL). The medical effectiveness and economic costs of the two comprehensive treatment options were compared.

Research Results

According to researchers, in normal pregnancies, the incidence of caries is 91.4%, and periodontal disease occurs in 90% of cases. In complicated pregnancies, these figures are higher. The need for dental care in pregnant women arises in 94.7% of cases [2]. There are no estimates of how many pregnant women in the Republic of Uzbekistan are affected by GG.

Photo 1 – typical condition of the oral cavity in GG; patient M.B., 24 years old.

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Traditional treatment consisted of the following measures at prices for October 2025.

	Medical procedure/treatment	N_1	C_1	N_2	C_2
1	dental examination	1	76 000	0	0
2	Removal of bacterial plaque using AIR-FLOW, glycine/erythritol powders, followed by antiseptic treatment, upper and lower jaw	1	300 000	0	0
3	Removal of hard dental deposits with an ultrasonic scaler, followed by polishing with fluoride-containing paste, application of Remodent remineralizing agent, fluoridation with Fluorlack for enamel sensitivity, upper and lower jaw	1	400 000		
4	Periodontal cleaning of periodontal pockets using the VECTOR system, polishing with Vector Fluid polish; application of Remodent remineralizing gel to the upper and lower jaws	0	0	+1	500 000
5	treatment of teeth affected by caries without removing the nerve	2	600 000	+1	300 000
6	Forest balm against bleeding, toothpaste	1	25 600	0	0
7	Chlorhexidine 0.05	1	5 000	+2	10 000
8	herbal remedy Chamomile	1	8 000	+2	24 000
9	Forest balm, anti-swelling rinse	1	37 000	+2	74 000
10	Parody gel	1	116 000	0	0
11	Ascorutin 0.5 ml	1	20 000	0	0
12	Lactofiltrum	1	84 000	0	0
	sum of costs		1 671 600		908 000

Where N_1 is the number of medical procedures or therapeutic agents; C_1 is the cost of a standard course of TL for one month; N_2 is the number of additional procedures within the extended TL course of up to three months; C_2 is its additional cost.

TD is a system of superficial procedures that are performed over a long period of time; they partially neutralize the pathogenic effect of microbiota. The cost of TL

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for 3 months was calculated as follows: $C_3 = C_1 + C_2 = 1,671,600 + 908,000 = 2,579,600$ soums. TAP therapy significantly accelerates the process of eliminating inflammation in periodontal tissues. The cost of preparing TAP and 3 administrations (AZ – alternative cost) is 1,500,000 soums, the cost of alternative treatment (AL) is calculated as $C_4 = C_1 + AZ = 3,171,600$ soums.

Despite its reversible nature, untimely treatment of GGB leads to irreversible consequences of a dental, obstetric-gynecological, and somatic nature.

Irreversible dental consequences of GGB include increased caries, pathological tooth mobility, deepening of periodontal pockets, and the need for surgical correction of overgrown gum tissue. These require complex surgical intervention. The cost of treating irreversible consequences will be 870,000 soums per tooth. The savings (W) from preventing relapses and complications (R) with TAP therapy will be: $W = C_3 - C_4 + R = 278,000$ soums.

Discussion

Our study showed that among women with pregnancy pathologies and serious somatic diseases, the level of GHB reaches 80-95%. GHBTS is one of the criteria for pregnancy pathology and carries a higher risk of premature birth. The hematogenous route of pathogenic microorganisms from the oral cavity to the vagina and uterus is bidirectional. If not diagnosed in a timely manner, ignoring GGB can lead to irreversible dental consequences: increased caries, tooth extraction, pathological tooth mobility, and periodontitis.

Researchers [4] do not claim that GGB is the cause of premature birth, but rather that it is one of the factors contributing to an increased risk of premature birth. According to statistics, the frequency of premature births is 9.5% of all births (with slight differences between economically more and less affluent countries) [5]. Based on these statistics, of the children born prematurely in 2024, a maximum of 43,492 and a minimum of 17,396 will likely be disabled.

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Conclusions

Despite the higher cost of AL with TAP therapy as part of complex treatment compared to three months of TL, dental complications are prevented and the risk of premature birth is reduced.

The cost of AL (C_4) exceeds the cost of a three-month course of TL by 592,000 soums, or 23%. At the same time, the duration of treatment is reduced by more than three times, and a greater medical effect is achieved. TAP improves microcirculation in periodontal tissues and also serves as a gentle replacement for anti-inflammatory drugs that are not recommended for pregnant women.

In the long term, TAP therapy allows each pregnant woman with GGBS and GGTS to save 278,000 soums by preventing irreversible dental and obstetric-gynecological consequences, anticipating their occurrence or aggravation.

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