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COMPARATIVE EFFECTIVENESS OF TREATMENT OF SKIN DISEASES IN COMPLEX THERAPY USING THE DRUG

“KARTAMSCAR”

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Annotation

Relevance: Skin diseases and scarring are a significant medical and social problem, impacting patients' quality of life. The drug "KARTAMSCAR" combines traditional ingredients described by Ibn Sina—propolis, safflower, and cottonseed oil—with modern pharmaceutical technologies. Objective: To evaluate the comparative effectiveness of standard therapy and combination therapy using "KARTAMSCAR" in patients with post-acne, hypertrophic scars, and stretch marks. **Materials and methods:** The study involved 58 patients aged 20 to 60 years. Patients were divided into two groups: a control group (standard treatment) and an intervention group (standard treatment + KARTAMSCAR). Efficacy was assessed using the POSAS and VAS scales after 4 and 8 weeks. Results: The intervention group showed a statistically significant improvement in scar tissue: the average POSAS score decreased by 45.7% compared to 21.4% in the control group ($p < 0.01$). There were no side effects. Conclusions: The use of KARTAMSCAR as part of a combination therapy significantly increases the effectiveness of skin disease treatment, improving skin elasticity, color, and texture.

Keywords: KARTAMSCAR, scars, Ibn Sina, safflower, propolis, cottonseed oil, dermatology.

Introduction

Skin diseases and cicatricial changes are one of the most pressing problems in dermatology. According to the World Health Organization, more than 1.9 billion people worldwide experience various dermatological disorders annually, including post-acne, hypertrophic scars, and striae [1]. Scars often persist for many years, significantly affecting the quality of life, psychoemotional state, and social adaptation of patients [2]. The most common treatment methods include laser therapy, corticosteroid injections, silicone gels, cryotherapy, microneedling, and surgical correction [3]. However, these methods are often associated with high cost, invasiveness, and limited availability, especially in middle-income countries [4]. In recent decades, there has been an increased interest in the use of herbal remedies with anti-inflammatory, antioxidant, and regenerative effects [5].

A great scientist and physician, Ibn Sina (Avicenna) (980–1037), author of *The Canon of Medicine* (*Al-Qanun fi al-Tibb*) [6], made a special contribution to the development of medicine. In his works, he recommended the use of propolis, cottonseed oil, and safflower for the treatment of burns and skin lesions, describing them as effective antiseptic, anti-inflammatory, and wound-healing agents. Modern research confirms these properties: Propolis is rich in flavonoids and phenolic acids and has pronounced antibacterial and wound-healing activity [7]. Safflower contains linoleic acid and antioxidants, stimulates collagen remodeling, and improves microcirculation [8]. Cottonseed oil has a softening and protective effect, improving the penetration of active substances [9]. Modern pharmaceutical technologies have made it possible to combine these traditional components in the drug “KARTAMSCAR,” designed to correct cicatricial changes in the skin. The use of such agents as part of combination therapy is a promising direction in dermatology [10].

Table 1.

Historical and modern use of the components of the drug "KARTAMSCAR"

Component	Recommendations of Ibn Sina (11th century)	Current data	Basic properties
Propolis	It was used for burns and skin lesions to prevent infection.	Contains flavonoids, stimulates fibroblasts and epithelialization	Antiseptic, wound healing, antiinflammatory
Safflower	Used as a means to improve circulation and soften tissues	Rich in linoleic acid, stimulates regeneration	Antioxidant, proregenerator
Cottonseed oil	It was used as a protective and nourishing agent.	Increases skin hydration, improves the penetration of substances	Emollient, supporting action

Materials and methods

The study was conducted at the Bukhara State Medical Institute from March to August 2025. Inclusion criteria: patients with post-acne, hypertrophic scars and stretch marks, aged 20 to 60 years. Total number of participants: 58 people (40 women and 18 men). Patients were divided into two groups: Control group (n = 29) - standard treatment (emollients, physiotherapy as indicated). Main group (n = 29) - standard treatment + KARTAMSCAR (applied twice a day). Evaluation methods: POSAS (Patient and Observer Scar Assessment Scale), VAS (visual analogue scale of satisfaction), dermatoscopy, statistical analysis using Student's t-test ($p < 0.05$ was considered significant).

Table 2. Patient characteristics (n = 58)

Indicator	Total (n=58)	Control (n=29)	Main (n=29)
Average age (years)	34.7 ± 9.8	34.5 ± 9.5	34.9 ± 10.2
Women / Men	40 / 18	20 / 9	20 / 9
Post-acne	27 (46.6%)	13	14
Hypertrophic scars	21 (36.2%)	10	11

Stretch marks	10 (17.2%)	6	4
POSAS (original)	42.1 ± 7.5	41.8 ± 7.6	42.3 ± 7.3
YOURS (original)	4.2 ± 1.0	4.3 ± 0.9	4.1 ± 1.1

Table 2 presents the main demographic and clinical characteristics of the patients included in the study (n = 58). The mean age of the participants was 34.7 ± 9.8 years, which reflects the typical age category of patients with postinflammatory and traumatic skin scars.

Women predominated in the sample (40 women and 18 men), consistent with known data showing that women are more likely to seek treatment for skin defects. Patients were divided equally into two groups:

The control group (n = 29) received standard therapy,

The main group (n = 29) received standard therapy with the addition of the drug “KARTAMSCAR”.

The most common clinical condition was post-acne scars, occurring in 46.6% of patients (n = 27). Hypertrophic scars were observed in 36.2% of patients (n = 21), and striae (stretch marks) in 17.2% (n = 10). Baseline POSAS scores were comparable in both groups: 41.8 ± 7.6 points in the control group and 42.3 ± 7.3 points in the main group. Similarly, subjective assessment scores on the VAS also did not have statistically significant differences between the groups (4.3 ± 0.9 and 4.1 ± 1.1 , respectively; $p > 0.05$).

Thus, both groups were balanced in terms of age, gender, type of lesions and initial severity of cicatricial changes, which allowed for a fair comparison of the effectiveness of therapy.

Results

After 8 weeks of treatment, a significant improvement in skin condition was observed in the main group compared to the control group. The average POSAS score decreased from 42.3 ± 7.3 to 22.9 ± 5.2 (by 45.7%) in the main group, and

from 41.8 ± 7.6 to 32.9 ± 6.8 (by 21.4%) in the control group. The level of patient satisfaction according to VAS increased in the main group from 4.1 ± 1.1 to 8.1 ± 0.7 (51.2%), in the control group - to 6.1 ± 0.8 (24.5%).

No side effects were reported.

Table 3.

Comparative treatment results after 8 weeks

Indicator	Control group (n = 29)	Main group (n = 29)	p-value
POSAS (8 weeks)	32.9 ± 6.8	22.9 ± 5.2	<0.01
POSAS improvement (%)	21.4%	45.7%	<0.01
YOURS (8 weeks)	6.1 ± 0.8	8.1 ± 0.7	<0.01
Improvement of YOUR (%)	24.5%	51.2%	<0.01
Side effects	0%	0%	NZ

The key efficacy indicator was the change in the Patient and Observer Scar Assessment Scale (POSAS). In the control group, where patients received only standard therapy, the average POSAS score decreased from 41.8 ± 7.6 to 32.9 ± 6.8 points, which corresponds to an improvement of 21.4%. In the main group, which received combination therapy with the addition of KARTAMSCAR, POSAS decreased from 42.3 ± 7.3 to 22.9 ± 5.2 points, which corresponds to an improvement of 45.7%. The difference between the groups was statistically significant ($p < 0.01$). The second criterion assessed was subjective patient satisfaction, measured using a visual analogue scale (VAS): In the control group, the average score increased from 4.3 ± 0.9 to 6.1 ± 0.8 (+24.5%). In the main group, the rate increased from 4.1 ± 1.1 to 8.1 ± 0.7 (+51.2%). The difference between groups was also significant ($p < 0.01$), indicating the superior clinical efficacy of the combined approach. It is especially important to note that there were no side effects in either the control or main groups.

KARTAMSCAR was well tolerated by patients and did not cause irritation, allergic reactions, or discomfort.

Thus, the data in Table 3 demonstrate a clear advantage of complex therapy using the drug “KARTAMSCAR” compared to standard treatment in terms of both objective and subjective indicators.

Discussion

The results obtained during the study convincingly confirm the effectiveness of KARTAMSCAR in the combination therapy of skin diseases accompanied by cicatricial changes. After 8 weeks of treatment, the study group showed a statistically significant improvement in clinical scores according to the POSAS and visual analog scale (VAS) compared to the control group, which received standard therapy alone. The POSAS improvement in the study group was 45.7%, which is more than twice the effect of standard therapy (21.4%). Similarly, patient satisfaction (VAS) increased by 51.2% in the study group and only 24.5% in the control group. This difference indicates not only an objective improvement in the clinical picture but also the patients' subjective perception of treatment effectiveness. This is crucial in clinical practice, as a high level of satisfaction promotes better compliance, reduced anxiety, and an improved quality of life for patients with aesthetic skin defects. The effectiveness of KARTAMSCAR can be explained by its complex composition, which includes propolis, safflower, and cottonseed oil—substances with pronounced anti-inflammatory, antioxidant, and wound-healing properties. Propolis has an antiseptic and regenerative effect, stimulates fibroblast activity, and accelerates epithelialization. Safflower improves microcirculation and collagen remodeling, promoting the formation of more elastic and less visible scar tissue. Cottonseed oil provides optimal conditions for healing—hydration, nutrition, and increased penetration of active ingredients into the deeper layers of the skin.

It's important to note that these components were first recommended by Ibn Sina (Avicenna) in the 11th century for the treatment of burns and skin lesions. Thus,

this modern preparation exemplifies the integration of traditional medicine and evidence-based clinical approaches.

Our data are consistent with the results of international studies demonstrating the effectiveness of phytotherapeutic agents in scar correction. Thus, according to Sforcin and Bankova (2011), propolis has pronounced anti-inflammatory activity and accelerates the healing of damaged skin [7]. Park et al. (2019) described the positive effect of safflower on tissue regeneration and collagen synthesis [8]. Similar data were obtained with the use of natural oils in dermatology (Suh et al., 2020) [9]. Particularly noteworthy is the absence of side effects in all patients, which confirms the good tolerability and safety of the drug. Unlike many traditional scar correction methods (laser resurfacing, corticosteroid injections, surgical correction), the use of "KARTAMSCAR" does not require anesthesia, does not cause discomfort, and can be used on an outpatient basis.

Another important aspect is the affordability of this method. The drug can be used as an adjunct to standard treatment and does not require expensive equipment or specialized facilities, which is especially important for practicing dermatologists in resource-limited regions.

Thus, the use of "KARTAMSCAR" can be considered as an effective, safe and affordable method for correcting scars of various origins, providing not only clinical but also psycho-emotional improvement in the condition of patients.

However, for wider implementation of this method, further studies with a larger number of participants, multicenter trials and long-term monitoring of the treatment results, including an assessment of long-term effects, are needed.

Conclusion

The results of the study convincingly demonstrated that the inclusion of the drug "KARTAMSCAR" in the complex therapy of patients with cicatricial changes in the skin (post-acne, hypertrophic scars, striae) leads to a more pronounced clinical improvement compared to standard treatment.

After 8 weeks of therapy, a significant reduction in average POSAS scores was recorded, by 45.7% in the treatment group versus 21.4% in the control group. Similarly, subjective patient satisfaction, as measured by the VAS, increased twofold in the combination treatment group. These results confirm the high efficacy of KARTAMSCAR in the correction of skin scarring.

The drug's clinical effect is due to the synergistic action of its natural ingredients—propolis, safflower, and cottonseed oil—which possess antiseptic, anti-inflammatory, and wound-healing properties. A significant advantage is the absence of side effects, making the drug safe for long-term use and widespread application in outpatient dermatology practice.

The use of “KARTAMSCAR” is especially relevant in resource-limited settings, since the method: does not require expensive equipment, is non-invasive, is well tolerated by patients, and can be combined with other methods of therapy. The historical basis for the use of such components, established by Ibn Sina, is confirmed by modern clinical and pharmacological research, which emphasizes the importance of integrating traditional medicine with evidence-based practice. Despite the positive results, the study has certain limitations: a relatively small number of patients and was conducted at a single center. Therefore, promising areas include: conducting multicenter randomized trials with a larger number of participants, analyzing the drug's effectiveness in various age and clinical groups, and studying the long-term results of its use, including the prevention of pathological scarring.

Thus, KARTAMSCAR can be recommended for use in dermatological practice as an effective, safe, and affordable treatment for the correction and prevention of scars of various origins. Its use allows for significant clinical and cosmetic results, improves patients' quality of life, and expands dermatologists' therapeutic options.

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