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ОЦЕНКА ВЗАИМООТНОШЕНИЯ МЕЖДУ АКНЕ И ПИТАНИЕМ

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THE EVALUATION ON THE CORRELATION OF ACNE AND DIET

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Резюме. Акне это воспалительное заболевание кожи, связанное с гормональными нарушениями и гиперпродукцией кожного сала. Продукты с высоким гликемическим индексом и молочные продукты повышают уровни ИФР-1 и андрогенов, усиливая воспаление. Диета с низким гликемическим индексом и исключением молочных продуктов снижает выраженность акне. Наилучший эффект достигается при сочетании диеты с местной терапией адапаленом и бензоилпероксидом. Диетотерапия рекомендуется как эффективное дополнение к лечению угревой болезни.

Ключевые слова: акне, диета, гликемический индекс, молочные продукты, воспаление.

Resume. Acne is an inflammatory skin condition influenced by hormonal factors and excess sebum production. High glycemic index foods and dairy increase IGF-1 and androgens, promoting acne flare-ups. A low-glycemic, dairy-free diet helps reduce acne severity. The best results were observed when combined with topical adapalene and benzoyl peroxide treatment. Dietary modification is recommended as an effective adjunct to acne therapy.

Keywords: acne, diet, glycemic index, dairy, inflammation.

Introduction. Acne vulgaris is a multifactorial inflammatory skin disease driven by excessive sebum production, follicular hyperkeratinization, and hormonal influences. Emerging evidence suggests that diet plays a significant role in acne pathogenesis, particularly high-glycemic-index (GI) foods and dairy products, which elevate insulin-like growth factor-1 (IGF-1) and androgens, exacerbating acne. This clinical study investigates the direct impact of dietary modifications on acne progression in affected individuals.

Objective: to evaluate the impact of a low glycemic index diet, excluding dairy products and rich in anti-inflammatory nutrients, on the course of acne vulgaris, and to determine the relationship between dietary habits, levels of IGF-1 and androgens, and the severity of clinical manifestations of the disease.

Materials and methods. Four patients aged 20–29 years with clinically diagnosed moderate acne were enrolled in a 4-week dietary intervention study. Participants were stratified into three groups based on their treatment approach:

(1) Combination therapy group (n=2), which received a strict low-glycemic index (GI <55) diet combined with dairy elimination and topical treatment using adapalene gel 0.1% (night) and benzoyl peroxide cream 2.5% (day)

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(2) Diet-only group (n=1), which followed the dietary intervention without pharmacologic treatment; and

(3) Non-adherent group (n=1), which did not adhere to the dietary recommendations.

All participants were provided with personalized diet plans emphasizing low-GI foods (e.g., whole grains, vegetables, legumes), the exclusion of high-GI foods (e.g., sugary snacks, processed carbohydrates), and complete elimination of dairy products. Nutrient-dense foods rich in zinc and vitamins A and D (e.g., leafy greens, nuts, fish) were recommended for their potential anti-inflammatory and sebum-regulating effects. Participants maintained dietary adherence logs throughout the study. Clinical photographs were taken at weekly intervals to monitor acne progression, focusing on lesion types (comedones, papules, and pustules). Potential hormonal mediators, such as insulin-like growth factor-1 (IGF-1) and androgens, were inferred based on dietary patterns and known nutritional triggers.

Results and their discussion. By the end of the 4-week intervention, the combination therapy group (n=2) fig.1, which followed a strict low-glycemic, dairy-free diet alongside adapalene and benzoyl peroxide treatment, showed great results, with clear improvement in acne severity noted by the second week. The diet-only participant (n=1), who followed the dietary plan without pharmacological treatment, showed moderate improvement with visible changes beginning in the third week. In contrast, the non-adherent participant (n=1) fig.1 showed no significant improvement, with persistent inflammation and ongoing microcomedone formation, often coinciding with high-GI food intake.

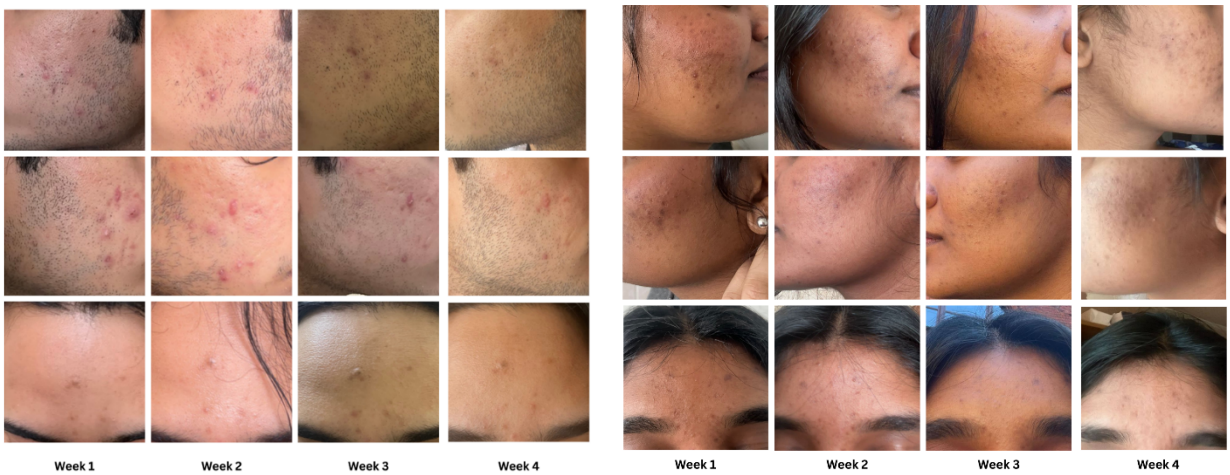

Fig. 1 – Clinical photographs of the forehead and bilateral cheeks at weeks 1,2,3 and 4 demonstrating acne lesion distribution and treatment response in key facial regions following dietary intervention in a patient in combination therapy group and a patient in non-adherent therapy group.

Conclusion:

1. This study reinforces the hypothesis that diet modulates acne via hormonal and inflammatory pathways.

2. Low-GI, dairy-free, and nutrient-dense diets may help suppress acne progression, while high-GI foods and dairy appear to aggravate it.

3.Though limited by sample size, these findings support dietary counselling as a potentially beneficial adjunct in acne management.

4. Dermatologists and nutritionists should consider diet, particularly in hormonally sensitive acne presentations.

5. Larger, randomized controlled trials are needed to validate these preliminary findings

6. Exploration of specific nutrient roles (e.g., zinc, vitamins A & D) in acne modulation

7. Long-term studies to assess sustainability and relapse rates post dietary intervention

Potential integration of diet-based protocols into dermatological treatment guidelines

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