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ORIGINAL RESEARCH COMMUNICATION

A low-glycemic-load diet improves symptoms in acne vulgaris patients: a randomized controlled trial[1,2,3]

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Background: Although the pathogenesis of acne is currently unknown, recent epidemiologic studies of non-Westernized populations suggest that dietary factors, including the glycemic load, may be involved.

Objective: The objective was to determine whether a low-glycemic-load diet improves acne lesion counts in young males.

Design: Forty-three male acne patients aged 15-25 y were recruited for a 12-wk, parallel design, dietary intervention incorporating investigator-blinded dermatology assessments. The experimental treatment was a low-glycemic-load diet composed of 25% energy from protein and 45% from low-glycemic-index carbohydrates. In contrast, the control situation emphasized carbohydrate-dense foods without reference to the glycemic index. Acne lesion counts and severity were assessed during monthly visits, and insulin sensitivity (using the homeostasis model assessment) was measured at baseline and 12 wk.

Results: At 12 wk, mean (±SEM) total lesion counts had decreased more ($P = 0.03$) in the low-glycemic-load group (−23.5 ± 3.9) than in the control group (−12.0 ± 3.5). The experimental diet also resulted in a greater reduction in weight (−2.9 ± 0.8 compared with 0.5 ± 0.3 kg; $P < 0.001$) and body mass index (in kg/m^2; −0.92 ± 0.25 compared with 0.01 ± 0.11; $P = 0.001$) and a greater improvement in insulin sensitivity (−0.22 ± 0.12 compared with 0.47 ± 0.31; $P = 0.026$) than did the control diet.

Conclusion: The improvement in acne and insulin sensitivity after a low-glycemic-load diet suggests that nutrition-related lifestyle factors may play a role in the pathogenesis of acne. However, further studies are needed to isolate the independent effects of weight loss and dietary intervention and to further elucidate the underlying pathophysiologic mechanisms.

Key Words: Acne • glycemic index • glycemic load • insulin resistance • hyperinsulinemia

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