Diet-Acne Association Gains Footing in Literature

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WAIKOLOA, HAWAII — Most physicians, taught that diet is unrelated to the pathogenesis of acne vulgaris, dismiss as folklore the frequent questions posed by patients and family members as to whether eating greasy foods, chocolate, or other sweets causes their skin problem.

The diet issue, however, has gained renewed vitality of late in the dermatology literature, with various studies implicating milk, high–glucose-load diets, and low-fiber/high–saturated-fat intake, Dr. Anthony J. Mancini said at the annual Hawaii dermatology seminar sponsored by Skin Disease Education Foundation.

The link between milk consumption and acne has been extensively pursued by investigators at the Harvard School of Public Health, Boston, said Dr. Mancini. In a prospective cohort study of 6,094 girls, aged 9-15 years, who were children of Nurses' Health Study II participants, self-reported greater consumption of milk—whether whole, low-fat, or skim—on food frequency questionnaires was independently associated with acne severity in a multivariate analysis, said Dr. Mancini, head of pediatric dermatology at Children's Memorial Hospital, Chicago.

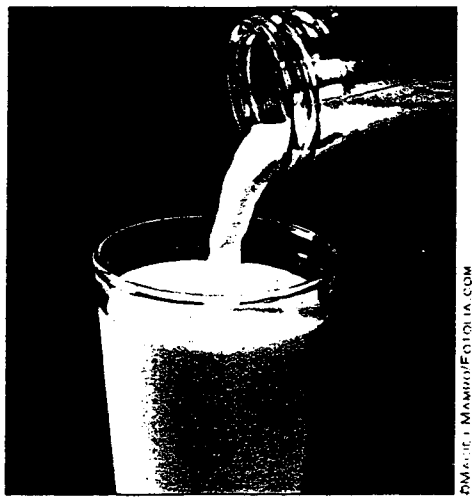
Those who drank two or more servings of milk per day during the 2-year study period were roughly 20% more likely to have acne than were girls who drank less than one serving per week. The results weren't significantly altered by excluding girls using contraceptives or restricting the analysis to those who were less than 11 years old at baseline (Dermatol. Online J. 2006;12:1).

In a similarly designed study conducted with 4,273 teenage boys, the Harvard group once again found a positive association between milk intake and acne. This time, though, the relationship was significant only for skim milk (J. Am. Acad. Dermatol. 2008; 58:787-93).

The investigators' hypothesis is that hormones and other bioactive agents contained in milk have effects upon acne.

In an editorial accompanying an earlier study by the group, Dr. F. William Danby, a dermatologist at Dartmouth University, Hanover, N.H., noted that 75%-90% of all milk reaching the marketplace comes from pregnant cows. This milk contains progesterone, other dihydrotestosterone precursors, somatostatin, prolactin, insulin, growth factor–releasing hormone, insulinlike growth factors 1 and 2, and numerous other substances that could stimulate pilosebaceous activity (J. Am. Acad. Dermatol. 2005;552:360-2).

Dr. Mancini noted that the link between acne and a high–glycemic-load diet rich in processed carbohydrates was made by Loren Cordain, Ph.D., and coworkers at Colorado State University, Fort Collins. In contrast to the near-universal prevalence of acne in adolescents in modern developed countries, they reported a rate of essentially zero in two non-Westernized populations: the Aché hunter-gatherers of Paraguay and Kitavan Islanders of Papua New Guinea. These subjects also had low serum insulin and high insulin sensitivity.



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In one study, two or more servings of milk daily raised the risk of acne 20%.

Genetic factors were unlikely to be the sole explanation, the investigators argued. They highlighted the subjects' strikingly non-Western diets, which consisted of minimally processed plant and animal foods (Arch. Dermatol. 2002;5138:1584-90).

In pursuit of the hypothesis that low–glycemic-load diets may diminish acne, investigators at RMIT University in Melbourne, conducted a 12-week randomized trial involving a low–glycemic-load diet and a carbohydrate-dense control diet in 43 male acne patients aged 15-25 years, Dr. Mancini said.

Both acne severity and insulin sensitivity improved on the low–glycemic-load diet, but the subjects also lost weight on the diet and the investigators couldn't rule out the possibility that this weight loss played a role in the observed benefits (J. Am. Acad. Dermatol. 2007;57:247-56).

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