Olive, Whey Products May Help Soothe Psoriasis

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Contributing Writer

Two new natural products—one containing olive polyphenols and the other a proprietary combination of whey proteins—can reduce the symptom burden and appearance of mild to moderate psoriasis.

Both products were recently introduced in the United States as oral formulations, filling a void left by drug therapy development for psoriasis over the last decade, which has largely involved oral medications for severe disease. The cost and side-effect profiles for the various biologics make them largely inappropriate for mild disease.

Polyphenols extracted from olives are potent antioxidants. Several years ago, Japanese researchers found that polyphenols can also down-regulate inflammation and improve psoriatic plaques.

Dr. Fujio Numano, a cardiologist at the Tokyo Vascular Disease Institute, observed the antipsoriatic effect while studying the cardiovascular effects of a proprietary olive polyphenol formula called Olivenol. This compound, which comes from water pressed out of organic olives, contains high levels of hydroxytyrosol, a strong, naturally occurring antioxidant.

Dr. Numano, who died in 2005, was one of Japan's leading cardiovascular researchers. Toward the end of his career he became interested in the role of oxidative stress and inflammation in heart disease. Several years before his death, Dr. Numano became aware of Olivenol, which is produced by CreAgri, a Hayward, Calif. nutraceutical company. He decided to test it in the context of heart disease.

He enrolled 35 heart disease patients in an open-label trial of Olivenol, with the object of assessing its impact on patients' lipid profiles, inflammatory markers, and overall cardiovascular health. It turned out that 8 of the 35 had skin disorders, including several with psoriasis. Dr. Numano noticed that most of these patients experienced significant improvement in their skin conditions while taking the olive polyphenols.

Roberto Crea, Ph.D., a biochemist who identified the antioxidant potential of hydroxytyrosol as well as a practical method for extracting it from the water byproduct of olive oil production, recalled in an interview: "Dr. Numano contacted me and said he had a big surprise. He said one of his patients, a 71-year-old with widespread psoriasis who was on heavy immunosuppressive drugs, showed remarkable improvements after several months on the Olivenol. After 2 months, 80% of the lesions had disappeared."

In addition to its antioxidant properties, olive water could also contain factors that can inhibit enzymatic signals or reactions in the inflammatory cascade.

Cautious about jumping to premature conclusions, Dr. Numano recruited several other people with psoriasis or inflammatory skin disorders like allergic contact dermatitis, erythema nodosum, and seborrheic dermatitis. The Olivenol formula gave measurable, sometimes marked improvement in all of the patients within 8 months, said Dr. Crea, who is chairman of the board and chief scientist for CreAgri.

He was not entirely surprised by the apparent anti-inflammatory effect. In vitro experiments with the polyphenol formula showed that it could inhibit TNF-α, interleukin-1, and lipoxygenase-5.

"We always felt that while the antioxidant properties were very important, they were not the whole story. Olive water also contains components we know next to nothing about. I believe they may be inhibitory factors for enzymatic reactions or signals in the inflammatory cascade," he said.

Dr. Numano's work is intriguing, but Dr. Crea stressed that it is far too soon to call Olivenol a true therapy for psoriasis: "We certainly don't want to overstate the potential value, and we're far from saying olive polyphenols are a cure. But we think we've got something here that can help a lot of patients." His company is planning to fund a formal controlled clinical trial of Olivenol in psoriasis patients. The product is currently available as an antioxidant dietary supplement.

The second natural product, whey, a common by-product of dairy food production, is proving to be a cornucopia of anti-inflammatory and immunomodulato-

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ry proteins, some of which appear to improve inflammatory diseases like psoriasis.

Dr. Yves Poulin and his colleagues at the Centre de Recherche Dermatologique du Québec Métropolitain have been studying a proprietary formulation of whey proteins, called XP-828L, in patients with mild to moderate disease. The formula was developed by Advitech, a Canadian company focused on developing evidence-based nutraceutical products. Dr. Poulin did not disclose any conflicts of interest, but one of his associates is vice president of research and development for Advitech.

The investigators randomized 84 patients with confirmed mild to moderate psoriasis (27 women, 57 men) to treatment with either a food grade cellulose placebo or 5 g/day of the whey protein powder.

Patients were instructed to take the assigned treatment orally between their morning and evening meals. After 56 days, the placebo-treated patients were switched to 10 g/day of the whey proteins, while those who received treatment from the outset remained on the lower 5-g daily dose.

All patients discontinued all other antipsoriatic therapies at least 28 days prior to beginning the trial. They were assessed by blinded investigators at two different medical centers on day 56 (8 weeks) and day 112 (16 weeks). Investigators used Physician's Global Assessment (PGA) scores, Psoriasis Area and Severity Index (PASI), body surface area measurement, and patient-rated itch severity in their assessments.

In the intent-to-treat analysis, patients receiving the XP-828L formula showed a statistically significant reduction in PGA scores from a mean of 3.05 at baseline to 2.79 after 8 weeks. There was no significant difference in the placebo-treated patients, whose scores went from 3.12 to 3.05. Exclusion of the 15 patients who did not complete the protocol did not change the finding in any way.

There was a trend toward greater improvement in the PASI scores among patients receiving the whey proteins, but the differences between the two groups were not significant (J. Cutan. Med. Surg. 2006;10:241-8).

There were no major differences on any of the assessment scales at 16 weeks, following the period in which placebo-treated patients were switched to the 10-g daily dose of the whey proteins. Their PGA scores improved more or less to the level seen in the patients treated with the lower dose, who generally maintained their improvements but did not obtain any additional benefit after the first 8 weeks.

The investigators concluded that "a period of 56 days of treatment with 5 g/day of XP-828L is sufficient to induce and maintain a clinical improvement of mild to moderate psoriasis." Though it is clearly no competition for the biologics or other advanced drug therapies, the whey protein formulation can reduce symptoms and severity in many cases.

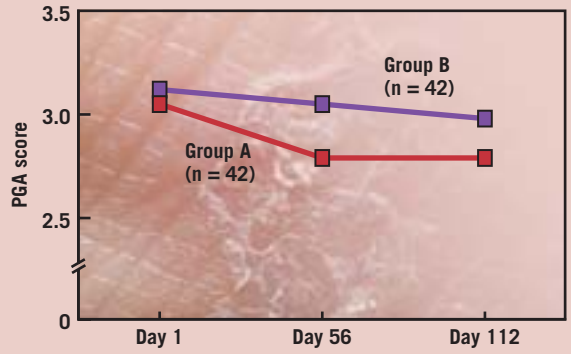
Moreover, it can do so with minimal risk of adverse effects. There were no clinically apparent side effects from the whey proteins at either the 5-g or 10-g daily dose, and there were no changes in creatinine, total bilirubin, transaminase enzymes or other biochemical markers.

The precise mechanisms underlying the whey protein effects are not entirely clear, but Dr. Poulin noted that whey contains β-lactoglobulin, α-lactalbumin, lactoferrin, immunoglobulins, and growth factors that have immunomodulatory effects.

In vitro work with XP-828L shows that the compound can inhibit production of Th1 cell cytokines, especially IFN-γ and IL-2, which would presumably have a down-regulatory effect on T-cell–mediated disorders like psoriasis and possibly other chronic inflammatory diseases like irritable bowel syndrome, ulcerative colitis, and atopic dermatitis. The formula also contains high levels of transforming growth factor (TGF)-β_2.

"Additional studies are needed to evaluate the potential of XP-828L to complement traditional treatments for psoriasis. From its safety and efficacy profiles, a natural product such as XP-828L could be a good addition to traditional therapies [for psoriasis," they wrote. ■

XP-828L Lowers PGA Scores in Psoriasis Patients



Notes: Group A received 5 g/day of XP-828L from day 1 to day 112. Group B received 10 g/day of XP-828L between days 56 and 112.
Source: Journal of Cutaneous Medicine and Surgery

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