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File: ■ Rose Hip (*Rosa canina*)
■ Osteoarthritis
■ Pain

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RE: Special Danish Rose Hip Powder Reduces Pain and Stiffness of Osteoarthritis of the Hand

Winther K, Campbell-Tofte J, Hansen P. Rose hip powder that contains the natural amount of shells and seeds alleviates pain in osteoarthritis of the dominant hand—a randomized, double-blind, placebo-controlled, cross-over clinical trial. *Open J Rheumatol Autoimmune Dis*. 2013;3(3):172-180.

Osteoarthritis (OA) is "essentially a disease of wear and tear of articular cartilage," according to the authors of this paper. Seen in about 90% of the population by age 40, OA is triggered by an inflammatory response to cartilage destruction. Nonsurgical treatment mainly aims to alleviate the associated pain and stiffness and reduce the inflammation. Acetylsalicylic acid (aspirin) and various nonsteroidal anti-inflammatory drugs (NSAIDs) are used to treat the symptoms but often have toxic and unwanted adverse effects. And, although selective inhibitors of the proinflammatory cyclooxygenase-2 (COX-2) have shown analgesic and anti-inflammatory properties without adverse effects, they are expensive and may negatively affect patients' circulatory systems. In earlier studies, including trials by these authors, rose hip (*Rosa canina*) powder (RHP) containing an equal amount of seeds and shells was shown to be useful for treating patients suffering from OA of the knee and/or hip[1-3] and patients with rheumatoid arthritis.[4] In the randomized, double-blind, placebo-controlled, crossover study reported here, the authors examined whether or not RHP reduces symptoms of OA of the hand. This is a substudy of a larger study on OA published in 2004.[1]

Of the 125 Caucasian outpatients in the larger study,[1] 40 patients suffered from mild-to-moderate OA of the hand. Thirty of those patients (4 men and 26 women) met the criteria for OA of the dominant hand as outlined by the American College of Rheumatology and were enrolled in the substudy. Their baseline characteristics – including OA severity, function of the dominant hand, and use of rescue medications (e.g., NSAIDs) – were similar.

After a 14-day run-in period, the patients were assigned randomly to take 5 capsules containing 0.5 g of either RHP or placebo twice daily for 3 months (phase 1; total RHP daily dosage = 5 g). Then, the patients switched to the alternative medication and

entered phase 2 for 3 months. Group A (RHP then placebo) included 16 patients; group B (placebo then RHP) included 14 patients.

Before and after each intervention, blood samples were drawn to determine levels of the inflammatory marker C-reactive protein, and the patients were evaluated for OA pain, stiffness, and overall feeling of discomfort. Consumption of all types of rescue medications was recorded daily.

The RHP used in the trial, Hyben Vital® (Hyben Vital ApS; Langeland, Denmark) – marketed as Rose-Hip Vital® in Australia and GOPO® in the United Kingdom – is prepared from a selected subspecies of the rose plant and contains the entire seed and shell content of the rose hips. According to the authors, 100 g RHP contains at least 500 mg vitamin C, 5.8 g pectin, 5.8 mg β-carotene, 50 mg β-sitosterol, 0.2 mg folic acid, 4.6 mg vitamin E, 170 mg magnesium, 1 mg zinc, and 10.9 µg copper. Other data from the manufacturer states that the RHP is standardized to 150 mg/kg of a galactolipid referred to as "GOPO." (GOPO is reportedly relatively unstable in heat; the processing method used by the manufacturer employs a patented technique that maintains a low temperature to maintain GOPO levels.) The placebo contained a powder similar in color, taste, and odor. Both the RHP and placebo were supplied by Hyben Vital.

The primary efficacy measure was reduced joint pain of the dominant hand, which was calculated as a mean of 16 different activity tests (e.g., pain when waking in the morning, slowly opening and closing the hand, pouring water from a jug, using a knife and fork, etc.) using a scale ranging from 1 (no pain) to 10 (almost unbearable pain). Testing was performed at baseline, after 3 weeks, and again after 3 months of treatment for both treatment phases. Secondary efficacy measures were changes in joint stiffness, overall feeling of discomfort, and consumption of rescue medications.

During the study, 24 patients (10 in group A and 14 in group B) completed the questionnaires for pain, stiffness, and general well-being. At the end of phase 1, 90% of patients in the RHP group reported reduced pain compared with 36% in the placebo group ($P<0.029$). This reduced pain was still evident 3 weeks after those patients switched to placebo treatment in phase 2. Of the 16 different activities, "handwriting a letter" showed the most pronounced decline in pain: RHP treatment resulted in a 20% ($P<0.03$) reduction in pain after 3 weeks and a 26% reduction after 3 months ($P<0.014$). No change was observed in the placebo-treated patients.

Significant improvements in pain reduction also were seen when using a corkscrew ($P<0.048$) and when pressing tablets out of a blister package ($P<0.003$) after RHP treatment compared with placebo intervention. After RHP treatment, stiffness ($P<0.02$) and general feelings of discomfort from the disease ($P<0.032$) decreased as well. No changes were seen in the consumption of NSAIDs during the study; however, overall consumption of other types of rescue medications (e.g., acetaminophen, codeine, and tramadol) decreased significantly during RHP treatment compared with placebo treatment ($P<0.013$). No statistically significant differences were seen in C-reactive protein levels (a marker of systemic inflammation) between the 2 treatments, probably due to the small number of patients tested (n=8). Only mild adverse effects were reported.

"The main outcome of this study is that chronic administration of the standardized RHP reduces pain and stiffness experienced during manual activity in patients with OA of the

dominant hand," write the authors. "We consider that the results warrant a large-scale, parallel study of the RHP in patients with osteoarthritis of the hand."

—Shari Henson

References

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Referenced article can be found at www.scirp.org/journal/PaperDownload.aspx?paperID=35933.