P.O. Box 144345 Austin, TX 78714-4345 ▪ 512.926.4900 ▪ Fax: 512.926.2345 ▪ www.herbalgram.org

HerbClip™

File: ■ Rose (*Rosa canina*, Rosaceae) Hip
■ Arthritis
■ Inflammation

HC 081663-566

Date: April 14, 2017

RE: Review of Rose Hip for Arthritis Summarizes Evidence of Potential Benefit

Marstrand K, Campbell-Tofte J. The role of rose hip (*Rosa canina* L) powder in alleviating arthritis pain and inflammation – part II animal and human studies. *Botanics*. May 4, 2016;2016(6):59-73.

Rose (*Rosa canina*, Rosaceae) hip has previously been investigated for the treatment of osteoarthritis.[1] Other studies have suggested that flavonoids and fatty acids may account for rose hip's anti-inflammatory activity. This review summarizes in vivo and clinical studies of the effect of rose hips on pain and inflammation. All cited literature was published in English, the vast majority of it between 1999 and 2015. Search strategies to identify relevant literature are not described.

This review discusses several in vivo studies. In a mouse model of paw edema, the ethanol, ethyl acetate, and butanol fractions of extracted dried rose hip seeds and shells showed significant anti-inflammatory effects. The authors state that a dosage of 919 mg/ml of ethanol extract was approximately 70% as effective as non-steroidal anti-inflammatory drugs (NSAIDs). In a mouse model counting abdominal contractions after injection of a toxic compound as a measure of pain, rose hip extract was compared to acetylsalicylic acid (ASA). The ethanol, ethyl acetate, and butanol fractions of rose hip were found to lessen abdominal contractions, but not as much as ASA. Rose hip has also been investigated in racing animals, such as horses and dogs. In a study in horses using rose hip powder made from seeds and shells or husks (LitoVet®; G.R. Lane Health Products Ltd; Gloucester, United Kingdom), horses had significant differences in vitamin C concentrations, significant speed increases, and better flexibility compared to recipients of a placebo. A placebo-controlled study in Greyhounds had similar results.

Rose hip has also been studied clinically. In two open clinical trials using rose hip powder in healthy subjects (45 g per day for four weeks, in one case followed by a washout period and four weeks of lower dosing), there were significant decreases of C-reactive protein (CRP, an inflammation marker), and in one study, of serum creatinine. No adverse effects were noted, though both studies had very small sample sizes. Three open trials in people with back pain or osteoarthritis have reported reduction in pain associated with much lower doses, though in one study of 152 people mostly with

severe back pain, 42 of the 75 people who had dropped out before the end of the year did so because of dissatisfaction with the degree of pain relief. In another open trial in patients with knee osteoarthritis, 4.5 g daily of a rose hip preparation made from shells and seeds, 4.5 g of shell-only powder (shells are thought to contain the most efficacious bioactive compounds), and 2.25 g of shell-only powder resulted in reduction of pain for all groups, with the 2.25-g group showing better results with "function" as compared with the higher dosage groups. Significance is not mentioned. There were significantly higher adverse side effects such as nausea and other gastrointestinal problems in the shell-only powder groups.

Rose hip has also been tested in patients with osteoarthritis in placebo-controlled, double-blinded, clinical trials. In patients on a knee or hip replacement waiting list taking 5 g daily of rose hip powder (both seeds and shells) for four months, hip flexion decline was reduced by 40% in the treatment group compared to the placebo group ($P<0.033$); a similar trend was seen for external and internal hip rotation. Knee flexion angle was significantly improved compared to baseline in both groups. Patients taking rose hips were more likely to report pain reduction and used fewer NSAIDs. In another randomized, placebo-controlled, crossover trial, patients with osteoarthritis took 5 g daily of rose hip powder with the "natural" concentrations of seeds and shells, or placebo, for three months. Those taking the rose hip treatment showed more improvement; as this was a crossover study, effects of rose hip powder given first were shown to continue after active treatment had ended. In total, significantly more patients saw effects during treatment as compared with placebo. Adverse effects during the study were observed in both treatment and placebo groups, including urticaria, frequent urination, constipation or diarrhea, and "water brash." Active treatment was also reported to reduce total cholesterol by 8.5%.

Another randomized, double-blind, placebo-controlled, crossover study tested 5 g daily of rose hip powder for three months in patients with knee or hip osteoarthritis. Those taking the rose hip powder showed a significant decrease in pain after three weeks, with no effects while taking placebo; after three months, no effects were noted in either group, though patients were encouraged to reduce analgesic consumption during the study and those taking rose hip reduced analgesic consumption by 40%. Secondary measures of stiffness and physical function were significantly improved in the rose hip group. Adverse effects, namely gastrointestinal problems and brief urticaria, were rare and not significantly different between treatment and placebo phases.

Three recent randomized, placebo-controlled, parallel trials have tested a low dose of rose hip powder, 2.25 g daily, in osteoarthritis. In one three-month study, CRP was reduced with rose hip treatment, but symptoms improved only in patients with a weight less than 84 kg (185.2 lbs). In a second study that used a product made of 90% shells and 10% seeds, pain and stiffness were similarly reduced in both groups with no effects on CRP. In another three-month study in patients with knee osteoarthritis who used a product made from shells alone, those taking rose hip powder had better joint movement and knee flexion as compared to placebo. Significance was not specified.

There have also been double-blind, placebo-controlled trials investigating the effects of rose hip on rheumatoid arthritis. In one such trial including 89 patients, rose hip powder (with seeds and shells) or placebo was given to patients with rheumatoid arthritis at 5 g daily for six months. After three and six months of treatment, global assessment of disease was improved significantly as compared with the placebo group. After six

months, physical activity, quality of life, and physician assessment were significantly more improved in the rose hip group, and there was a strong trend towards improvement in disease activity score (DAS-28) (P=0.056). Adverse effects were observed in both groups and consisted of gastrointestinal problems, rash, and eczema.

In conclusion, this review shows cumulative evidence for rose hip's efficacy as an anti-inflammatory and as a modestly effective analgesic in vivo. Clinical trials also suggest its usage for various forms of arthritis, and it is mentioned that the inclusion of both shells and seeds may be important in overall efficacy of rose hip powder. It is suggested that future studies should last at least six to 12 months, as three months may not be adequate to see the full benefits of rose hip.

—Amy C. Keller, PhD

Reference

[1]Milot B. Efficacy of rosehip (*Rosa canina*) as a pain-reducing agent in persons with osteoarthritis. *HerbClip*. August 15, 2008 (No. 060183-358). Austin, TX: American Botanical Council. Review of Does the hip powder of *Rosa canina* (rosehip) reduce pain in osteoarthritis patients? – a meta-analysis of randomized controlled trials by Christensen R, Bartels EM, Altman RD, Astrup A, Bliddal H. *Osteoarthritis Cartilage*. September 2008;16(9):965-972.

Referenced article can be accessed at https://www.dovepress.com/the-role-of-rose-hip-rosa-canina-l-powder-in-alleviating-arthritis-pai-peer-reviewed-article-BTAT.