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**FILE: ■ Rose Hip (*Rosa canina*)
■ Pharmacological and Clinical Effects**

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RE: Review Reveals Therapeutic Indications for Rose Hip

Chrubasik C, Roufogalis BD, Müller-Ladner U, Chrubasik S. A systematic review on the *Rosa canina* effect and efficacy profiles. *Phytother Res.* 2008;22:725-733.

In 1990, the German Commission E published three monographs on the traditional use of two parts from species of the genus *Rosa* L.: rose hip (*Rosae pseudofructus sine fructus*; the ripe, fresh, or dried seed receptacle of various species, freed from seed and attached trichomas); rose hip and seed (*Rosae pseudofructus cum fructibus*; the ripe, fresh or dried pseudofruits, including the seed); and rose hip seed (*Rosae fructus*; the ripe, dried seed).¹ Because "the evidence for some of the health claims attributed to the rose hip parts was not sufficiently documented and for others not documented at all, therapeutic indication was not recommended by the Commission E for any of the plant parts or preparations thereof," say these authors. The authors conducted a comprehensive review of the literature to summarize the pharmacological and clinical effects of *Rosa canina* (dog rose) to reevaluate its effectiveness in traditional medicine.

The authors performed computerized literature searches of Ovid, PubMed, and the Cochrane Collaboration Library back to 1985 to identify studies with *R. canina* rose hip. They also hand-searched their own files and the bibliographies of all located papers.

Cited in their review are a number of in vivo and in vitro studies demonstrating high antioxidative activities of various preparations and isolated constituents from rose hip. Although the phenolic fraction contributed to the antioxidant activity, the lipophilic component was the most effective when study results were compared based on the relation between total antioxidant capacity and the content of antioxidants, say the authors.

Cited studies demonstrating the anti-inflammatory activity of several fractions of the ethanol extract of the rose hip and seed suggest that the lipophilic component contributes to the anti-inflammatory principle.

An 80% acetone extract for rose hip and seed (50 mg/kg) or seed (12.5 and 25 mg/kg) was found to show substantial inhibitory effect on the gain of body weight and/or weight of visceral fat without affecting food intake in mice for two weeks after administration of the extracts and with no obvious toxic effect.² However, extracts from the rose hip (pericarp or shell) given at 100 and 200 mg/kg/day did not show such an effect. The main constituent trans-tiliroside was identified to inhibit dose-dependent body weight gain and visceral fat weight at a dose of 0.1-10.0 mg/kg daily.

In rats, plasma cholesterol and triglyceride concentrations were significantly lower after a rose hip oil diet than in control animals, but high density lipoprotein ("good") cholesterol was also lower.

Other in vivo and in vitro studies cited by the authors demonstrate prevention of ethanol-induced ulcers by rose hip seed aqueous extract; no significant blood glucose lowering effect of aqueous and ethanol extracts of dried rose hip and seed; varied results of rose hip seed on muscle tone and nerve conduction; a significant cytotoxic effect of ethanol and petroleum ether extracts of dried rose hip seed; and a weak antibacterial effect of a methanol extract of rose hip seed against *Escherichia coli*.

The authors cite six clinical studies, four of which were carried out with a rose hip and seed powder Litozin® [Hyben Vital International; Langeland, Denmark] from the subspecies *lito*. "Although evidence of the effectiveness is only moderate for osteoarthritis (two exploratory clinical studies of good quality) and poor for rheumatoid arthritis and chronic low back pain (one exploratory study for each indication), there is no doubt of the overall anti-inflammatory and analgesic potential of Litozin®," they write.

A rose hip preparation was investigated in a randomized double-blind study including 60 patients suffering from irritable bowel syndrome. Patients receiving the proprietary rose hip drink as placebo profited less than those receiving additional *Lactobacillus plantarum* 9843, but abdominal pain was reduced in both groups.³

The authors recommend future research using Litozin as part of a hypocaloric diet in light of rose hip's probiotic, stool regulating, and muscle relaxant effects and rose hip seed's lipid-lowering, antiobesity, and antiulcerogenic effects.

—Shari Henson

References

¹Blumenthal M, Busse WR, Goldberg A, Gruenwald J, Hall T, Riggins CW, Rister RS, eds. Klein S, Rister RS, trans. *The Complete German Commission E Monographs—Therapeutic Guide to Herbal Medicines*. Austin, TX: American Botanical Council; Boston: Integrative Medicine Communication; 1998:368-369.

²Ninomiya K, Matsuda H, Kubo M, Morikawa T, Nishida N, Yoshikawa M. Potent anti-obese principle from *Rosa canina*: structural requirements and mode of action of trans-tiliroside. *Bioorg Med Chem Lett*. 2007;17:3059-3064.

³Nobaek S, Johansson ML, Molin G, Ahrne S, Jeppsson B. Alteration of intestinal microflora is associated with reduction in abdominal bloating and pain in patients with irritable bowel syndrome. *Am J Gastroenterol*. 2000;95:1231-1238.

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