

Herbs for the Treatment of Inflammation and Arthritis

Boswellia

The resin of *Boswellia serrata* has anti-inflammatory and analgesic properties. This activity is due to the active constituents, known as boswellic acids, which reduce the formation of inflammatory leukotrienes. The mechanism of action is novel and specific: inhibition of 5-lipoxygenase.^{1,2}

Boswellia resin has been used traditionally for the treatment of many inflammatory conditions including rheumatic disorders and pulmonary diseases, especially those of a chronic nature.^{3,4}

Improvement in the symptoms of rheumatoid arthritis (RA) was observed in open clinical trials for both boswellic acid and Boswellia.⁵⁻⁹ In one trial the percentage of patients with detectable C-reactive protein decreased after 6 months of treatment, which suggests that Boswellia may have a disease-modifying effect in RA.

Double-blind, placebo-controlled trials indicated that there was a benefit from Boswellia treatment over placebo in patients suffering from RA for several years and in patients who responded poorly to conventional treatment. Boswellia provided a clear benefit particularly for children suffering from juvenile chronic arthritis.⁸

Boswellia has also shown beneficial effects in controlled trials of other inflammatory diseases, including Crohn's disease,¹⁰ ulcerative colitis,¹¹ chronic colitis¹² and asthma.¹³ In a randomised, double-blind, controlled study, Boswellia reduced measures of disease activity in Crohn's patients and was well tolerated. The authors concluded that Boswellia appeared to be superior to mesalazine in terms of a benefit-risk evaluation.¹⁰

Eighty-two percent of patients with ulcerative colitis grade II and III went into remission after treatment with Boswellia compared to 75% of patients treated with sulfasalazine in a controlled trial. Symptoms such as abdominal pain, loose stools, mucus and blood improved in both groups.¹¹ Mesalazine and sulfasalazine are anti-inflammatory drugs used in the management of inflammatory bowel diseases.

Celery Seed

Apium graveolens seed has been used traditionally for the clearance of acidic metabolites via the kidneys, and traditional sources recommend its use for rheumatism, arthritis and gout.¹⁴ Oral administration of Celery Seed extract demonstrated anti-inflammatory activity against chronic inflammation *in vivo*.¹⁵ The effectiveness of Celery Seed in treating the pain of arthritis was demonstrated in an Australian open, pre-clinical trial of 12-weeks duration.¹⁶

Ginger

Zingiber officinale rhizome owes its anti-inflammatory activity to the inhibition of the enzymes involved in arachidonic acid metabolism, cyclo-oxygenase and lipoxygenase,^{17,18} which reduces the synthesis of inflammatory prostaglandins and leukotrienes. Being a circulatory stimulant Ginger increases circulation to the affected joints and enhances the effectiveness of other components in the formula.

Seventy-five percent of RA and osteoarthritis patients experienced relief in pain and swelling, and all patients with muscular discomfort experienced relief of pain, in an uncontrolled clinical study using dried Ginger.¹⁹

Turmeric

Research into the anti-inflammatory activity of *Curcuma longa* rhizome has centred on the constituent curcumin. Curcumin is a dual inhibitor of arachidonic acid metabolism inhibiting both 5-lipoxygenase and cyclooxygenase *in vitro*.^{20,21}

Curcumin was compared to phenylbutazone, an anti-inflammatory and analgesic drug, in a double-blind trial involving RA patients. Significant improvement occurred with curcumin, but phenylbutazone gave greater improvement, probably due to its analgesic activity.²²

In a randomised, double-blind, placebo-controlled, crossover trial, osteoarthritis patients received a preparation containing Turmeric, Withania (Ashwaganda), *Boswellia serrata* and a zinc complex or placebo for 3 months.

Treatment with the herbal/mineral preparation produced a significant drop in severity of pain and disability.²³

Synergistic Formulation

These herbs would complement each other in a very potent formulation for the treatment of inflammation and arthritis.

Indications

- Relief of the pain and symptoms of rheumatoid arthritis and other forms of arthritis especially osteoarthritis, chronic juvenile arthritis, gouty arthritis and rheumatism.
- May be of benefit in leukotriene-mediated inflammation and hypersensitivity-based disorders such as asthma.
- May be of benefit in other chronic inflammatory bowel disorders such as ulcerative colitis and Crohn's disease.

Contraindications and Cautions

Contraindicated in patients with biliary obstruction and caution is advised in patients with gallstones and those receiving potent anticoagulant and antiplatelet drugs.

REFERENCES

¹ Safayhi H et al. *J Pharmacol Exp Ther* 1992; **261**: 1143 ² Safayhi H et al. *Mol Pharmacol* 1995; **47**: 1212 ³ Kapoor LD. *CRC Handbook of Ayurvedic Medicinal Plants*. CRC Press, Boca Raton, 1990. ⁴ Bharatiya Vidya Bhavan's Swami Prakashananda Ayurveda Research Centre. *Selected Medicinal Plants of India*. Chemexcil, Bombay, 1992. ⁵ Singh GP et al. Abstract presented at the *International Conference on Clinical Pharmacology and Therapeutics*, Bombay, 20-22 Nov 1987. ⁶ *Proceedings of the Symposium of Recent Advances in Mediators of Inflammation and Anti-inflammatory Agents*. CSIR, Regional Research Laboratory, Jammu, 1984. ⁷ Gupta VN et al. *Indian Drugs* 1987; **24**: 221 ⁸ Etzel R. *Phytomedicine* 1996; **3**: 91 ⁹ *Eleventh European Congress of Rheumatology*, Vol 5, supplement issue, 1987; p 175 ¹⁰ Gerhardt H et al. *Z Gastroenterol* 2001; **39**: 11 ¹¹ Gupta I et al. *Eur J Med Res* 1997; **2**: 37 ¹² Gupta I et al. *Planta Med* 2001; **67**: 391 ¹³ Gupta I et al. *Eur J Med Res* 1998 17; **3**: 511 ¹⁴ British Herbal Medicine Association's Scientific Committee. *British Herbal Pharmacopoeia*. BHMA, Bournemouth, 1983. ¹⁵ Atta AH, Alkofahi A. *J Ethnopharmacol* 1998; **60**: 117 ¹⁶ Australian Patent 99469910-A, January 1995, Mobius Consultancy Pty Ltd. ¹⁷ Kiuchi F et al. *Chem Pharm Bull* 1992; **40**: 387 ¹⁸ Suekawa M et al. *Nippon Yakurigaku Zasshi* 1986; **88**: 263 ¹⁹ Srivastava KC et al. *Med Hypotheses* 1992; **39**: 342 ²⁰ Flynn DL et al. *Prostaglandins Leukot Med* 1986; **22**: 357 ²¹ Huang MT et al. *Cancer Res* 1991; **51**: 1813 ²² Deodhar SD et al. *Indian J Med Res* 1980; **71**: 632 ²³ Kulkarni RR et al. *J Ethnopharmacol* 1991; **22**: 91

Author: Michelle Morgan

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