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FILE: ■ Andrographis (*Andrographis paniculata*)
■ Upper Respiratory Tract Infection
■ Meta-analysis

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RE: Review of Trials that Studied the Efficacy of Andrographis in the Treatment of Upper Respiratory Tract Infections

Poolsup N, Suthisisang C, Prathanturarug S, Asawamekin A, Chanchareon U. *Andrographis paniculata* in the symptomatic treatment of uncomplicated upper respiratory tract infection: systematic review of randomized controlled trials. *J Clin Pharm Ther.* 2004;29:37–45.

Upper respiratory tract infection is one of the most common acute illnesses and is the primary reason for absenteeism from school and work. Because most upper respiratory tract infections are caused by rhinoviruses, antibiotics are not useful in their treatment. Thus, alternative treatments are needed. The results of some clinical trials have shown that andrographis (called chiretta in this article; *Andrographis paniculata*) reduces the symptoms associated with uncomplicated upper respiratory tract infections (URTIs) such as the common cold and sinusitis. The main active constituents of this plant are andrographolide and its derivatives, which have known antipyretic, anti-inflammatory, and immunostimulant properties. However, no systematic review of randomized clinical trials to determine the efficacy of andrographis have been conducted; therefore, the objective of this study was to conduct such a review to better define the efficacy of andrographis in the treatment of uncomplicated URTIs.

A literature search of several databases (MEDLINE, EMBASE, BIOSIS, ERIC, NAPRALET, and the Cochrane Library) was undertaken to identify all randomized, double-blind, controlled trials associated with the use of andrographis in the treatment of uncomplicated URTIs that had been conducted until 2003. Only those studies that included data concerning the assessment of symptom severity were eligible for review. The main outcome measure was a reduction in overall symptom severity. Four studies meeting the eligibility criteria were identified and reviewed.

Two trials ($n = 225$) evaluated the efficacy of andrographis alone or in fixed combination with eleuthero (*Eleutherococcus senticosus*) versus placebo. In both of these trials, andrographis was superior to placebo in reducing the severity of symptoms associated with

URTIs ($P = 0.0002$). The pooled mean difference in the effect was 2.13 points in favor of the fixed combination. Another trial evaluated the efficacy of andrographis versus placebo in 208 patients with the common cold. There were fewer days of sick leave in the subjects treated with andrographis than in those who received placebo (0.96 compared with 0.21 days; $P < 0.03$), and total recovery (67.5% compared with 36%; $P < 0.05$) and symptom relief (55% compared with 19%; $P < 0.025$) were greater in the treatment group than in the placebo group. The difference in effect between groups (i.e., the symptom severity score) was 10.85 points. In the fourth trial, the efficacies of andrographis (3 or 6 g per day) and paracetamol (3.9 g per day) were compared in 152 patients with pharyngotonsillitis treated for 7 days. On day 3, fever disappeared in 26.1%, 68.1%, and 67.3% of the patients in the low-dose andrographis, high-dose andrographis, and paracetamol groups, respectively ($P < 0.0001$). The respective values for the eradication of sore throat were 8.7%, 29.7%, and 30.6% ($P = 0.001$). On day 7, no significant differences were observed between groups.

The results of this review "support the usefulness of andrographis in reducing the severity of uncomplicated acute upper respiratory tract infection." The authors note, however, that andrographis is only effective as a "symptomatic treatment" and that antibiotics are required in cases of bacterial infection. Furthermore, the authors recommend that high-quality placebo-controlled trials of other preparations of andrographis be conducted to confirm this plant's efficacy and clinical relevance in the treatment of uncomplicated URTIs.

—*Brenda Milot, ELS*

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