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**File: ■ Elderberry (*Sambucus nigra*)
■ Influenza**

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RE: Elderberry Extract for Treating Influenza Symptoms

King HF. Pilot clinical study on a proprietary elderberry extract: efficacy in addressing influenza symptoms. *Online Journal of Pharmacology and Pharmacokinetics*. 2009;5:32-43.

Elderberry (*Sambucus nigra*) has a long history of use for the treatment of colds and influenza. Clinical studies have found that elderberry extracts can inhibit influenza a and b infections, and pre-clinical studies have shown antiviral effects.¹ A recent study has shown that flavonoids from elderberry bind to the surface of the H1N1 influenza virus and interfere with host cell receptor recognition and/or binding.² This pilot clinical trial was designed to examine the effect of a proprietary slow-dissolve elderberry extract lozenge in the treatment of flu-like symptoms.

The study was conducted at Shanghai Construction Technical College (Shanghai, China) in March-April 2009. The patients were aged 16-60 years and presented with flu symptoms for less than 24 hours. The patients had at least 3 of the following symptoms: fever, headache, muscle aches, coughing, mucus discharge, and nasal congestion. Using computer-generated randomization, the patients were assigned either lozenges containing 175 mg elderberry extract (HerbalScience Singapore Pte. Ltd.; Singapore; n=32) or placebo lozenges (n=32) that were similar in appearance and taste. The patients took 4 lozenges/day for 2 days at mealtimes and bedtime. The following symptoms were monitored using a visual analogue scale (VAS): fever, headache, muscle aches, cough, mucus discharge from the respiratory tract, and nasal congestion. The patients were asked to score their symptom improvements 4 times a day for 2 days on a scale of 0 (no problems) to 10 (pronounced problems).

At baseline, 15 patients in the elderberry group and 9 in the placebo group had fevers ranging from 37.3-38.8°C. After the first 24 hours, there was a statistically significant decrease in fever compared to baseline in the elderberry group (P<0.0001). After 48 hours, all of the patients with fevers at baseline in the elderberry group had normal temperatures. In contrast, most patients with fever in the placebo group did not show improvement after 48 hours and only 2 had normal temperatures. All patients reported headaches at baseline. After 24 hours, there was a significant reduction in headache compared to baseline in the elderberry group (P<0.0001). After 48 hours, 78% of the elderberry group patients did not have headaches and

22% had mild headaches (VAS=1). In the placebo group, headaches became more severe compared to baseline after 48 hours ($P<0.0001$), and no improvements in headache were reported.

At baseline, all of the patients in the elderberry group and 87.5% of patients in the placebo group had nasal congestion. After 24 hours, the elderberry group showed a significant improvement in nasal congestion ($P<0.0001$). After 48 hours, 50% of patients in the elderberry group had no nasal congestion. In the placebo group, nasal congestion was worse for most patients ($P=0.049$), and only 2 patients reported improvements after 48 hours. About half of the patients in each group reported coughing at baseline. No significant improvement in coughing was found after the first 24 hours in the elderberry group. However, after 48 hours, cough had improved in the elderberry group, but the difference was not statistically significant ($P=0.093$). Nonetheless, the elderberry group showed significant improvements in coughing when compared to the placebo group at 48 hours ($P<0.0001$). In the placebo group, the majority of patients reported a worsening of cough and the VAS score increased compared to baseline after 48 hours ($P=0.0041$). No adverse effects were reported.

The author concludes that the administration of this proprietary elderberry extract "can rapidly relieve influenza-like symptoms." He comments that the results suggest that the proprietary elderberry extract is similar or superior to antiviral drugs in treating influenza-like symptoms and shortening the duration of illness, but more research is needed to determine if the extract can reduce viral shedding. The absence of adverse events leads the author to suggest that the proprietary elderberry extract should be studied in children and the elderly. He also suggests research on the proprietary elderberry extract in treatment of pandemic H5N1 avian influenza infections based on unpublished data by Dr. Roschek and coworkers showing that flavonoids from elderberry bind to the viral strain in vitro. More research is needed to confirm these results, including clinical trials which use objective measurements of symptoms and laboratory-confirmed influenza cases.

—*Marissa Oppel-Sutter, MS*

References

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