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FILE: ▪ European Bugleweed (*Lycopus europaeus*)
▪ Gypsywort
▪Thyroid Function

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RE: Observational Study Examines European Bugleweed's Effects on Thyroid

Beer AM, Wiebelitz KR, Schmidt-Gayk H. *Lycopus europaeus* (Gypsywort): effects on the thyroidal parameters and symptoms associated with thyroid function. *Phytomed*. Jan 2008;15(1-2):16-22.

European bugleweed (*Lycopus europaeus*; identified in article as gypsywort) is traditionally used to treat "slight hyperthyroidism with vegetative-nervous disturbances as well as in tenseness and pain of the mammary gland." Pre-clinical studies have demonstrated that European bugleweed extracts have effects on thyroid parameters, including reduction of thyroid hormones in rats and reduction of the thyroid-stimulating effects of antibodies obtained from patients with Grave's disease. However, clinical studies have not shown significant changes in thyroid parameters. Therefore, the purpose of this prospective observational clinical study was to examine the effect of European bugleweed on thyroid function and symptoms in patients with symptoms of hyperthyroidism.

This study was conducted in 2003-2004. Patients (n=62) were recruited from the Department of True Naturopathy at Blankenstein Hospital (Hattingen, Germany). The patients were included if they had thyroid-stimulating hormone (TSH) levels less than 1.0 mU/L and symptoms of hyperthyroidism according to naturopathic practice. These symptoms included nervous inner restlessness, heart sensations/palpitations, intense perspiration, and pathological heat intolerance. Patients in track 1 (n=33) received a daily 1-0-1 dose of 20 mg tablets of a European bugleweed preparation (Thyreo-loges B tablets, Pharm. Firm Loges, Winsen, Germany) for an average of 15.6 weeks. The track 2 group (n=29) received naturopathic treatment and no placebo. The main outcome measures were tri-iodothyronine and thyroxine excretion in urine at visit 1 (admission) and visit 2 (day of discharge from clinical treatment). Secondary outcome measures included levels of serum free tri-iodothyronine, free thyroxine, 17-beta-estradiol, testosterone, follicle-stimulating hormone, luteinizing hormone, and prolactin, as well as blood pressure and heart rate.

The results showed no significant differences between the control group and the European bugleweed group in tri-iodothyronine excretion in urine. Urinary excretion of thyroxine was significantly higher in the European bugleweed group compared to the control group (P=0.032). No significant changes were observed in any of the other outcome measures. In addition, "most patients assessed the efficacy of the therapy as good." There were 6 adverse event reports. Of these, 1 case was deemed possibly linked to treatment: "disturbances of the cardiac rhythm" at 7 weeks.

The authors note that the increase in thyroxine excretion in urine observed in the European bugleweed group "has to be interpreted with caution and restraint in respect of the final evidence because of the missing randomization in an observational study." The results suggest that an interference with tubular reabsorption in the kidneys or modification of renal excretion mechanisms within the glomeruli could account for the increased thyroxine excretion. More research is needed to confirm these results; however this study is the first to show "a measurable change of thyroid-related hormone parameters in human beings," related to treatment with European bugleweed.

—Marissa N. Oppel, MS

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