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AMERICAN BOTANICAL COUNCIL

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File: ■ Wormwood (*Artemisia absinthium*)
■ Crohn's Disease
■ Inflammation

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RE: Wormwood Exhibits Ability to Reduce Inflammatory Process in Crohn's Disease

Krebs S, Omer B, Omer N. Wormwood (*Artemisia absinthium*) suppresses tumor necrosis factor alpha and accelerates healing in patients with Crohn's disease – A controlled clinical trial. *Phytomed*. 2010;17:305-309.

Crohn's disease (CD) in patients exhibits an inflammatory process with increased production of pro-inflammatory cytokines, tumor necrosis factor (TNF-α), interleukin-1 (IL-1), and interleukin-6 (IL-6).[1,2] TNF-α levels in serum and stool samples of patients with active CD are elevated compared to normal controls.[3,4]

The purpose of the study conducted by the University of Freiburg, Germany was to observe the effects of wormwood on serum TNF-α levels in patients with active CD. The study was a randomized, open-label, multi-center trial using data obtained from 20 participants (9 men and 11 women), ages of 18-80, with CD receiving standard CD treatment but not infliximab or other TNF-α inhibitors. The patients must have had a level of 200 or more on the Crohn's Disease Activity Index (CDAI) to participate in the study. Patients were also assessed with Germany's version of Inflammatory Bowel Disease criteria (IBDQ) and Hamilton's Depression Scale (HAMD), at baseline (week 0) and together with CDAI after six weeks of treatment. The study lasted 6 weeks. Once criteria were met with the CD patients, there were no changes made in current medication use.[5]

Patients were instructed to take wormwood capsules or to take no additional medication (control group). Randomly assigned patients ingested 3, 400mg Seda-Crohn® capsules (Noorherbals.com; Delaware, Maryland) containing 250 mg of wormwood, 3 times per day. Seda-Crohn contains powdered wormwood (*Artemisia absinthium*) leaves and small stems with standardized levels of absinthin at 0.32-0.38% mixed with powdered cardamom (*Elettaria cardamomum*) seeds and mastic (*Pistacia lentiscus*) resin used as carriers.

Blood samples were tested at 3 and 6 weeks to determine TNF-α levels compared to baseline. Response in patients is defined as at least a 30% decrease or 70 points from a qualifying score on the CDAI. Statistical methods for a small sample size including

baseline continuous data were compared using the 2-sample t test. Baseline categorical data were compared using the χ^2 -test or Fisher exact test. A value of $P \leq 0.05$ was used to determine significance.

TNF-α serum levels decreased from 24.5 ± 3.5 pg/ml at week 0 to 8.0 ± 2.5 pg/ml at week 6. Levels of TNF-α in the placebo group were 25.7 ± 4.6 pg/ml at week 0 and 21.1 ± 3.2 pg/ml at week 6. The decrease was statistically significant.

A consistent reduction in symptoms that occurred in CD patients who received wormwood was reflected in their CDAI, IBDQ, and HAMD scores. At week 6, in 6 patients who received wormwood, CDAI-score was below 150. The average CDAI-score fell from 275 ± 15 to below 175 ± 15. HAMD scores decreased by an average of 9.8 ± 5.8 points. This drop indicates a significant clinical improvement. The mean scores for the control group did not improve significantly from baseline by the end of the 6-week study. The placebo group CDAI-score was 282 ± 11 at baseline and 260 ± 14 at week 6, and HAMD scores were reduced by 3.4 ± 6.6 points. The 20 participants all completed the 6-week study.

The authors conclude that the wormwood preparation has the capability of suppressing TNF-α while at the same time producing a marked effect on clinical symptoms of CD and depressed mood in CD patients who were becoming nonresponsive to medications. Some studies have shown that there is a high occurrence of DNA virus such as the cytomegalovirus or Epstein-Barr virus in CD patients.[6] Antiviral immune system effects from wormwood may also have contributed to the clinical change in index scores observed in this study. There may also be a clinical effect not documented in this study from the combination of wormwood with cardamom. Larger clinical studies that are blinded should further test wormwood, at least as an adjuvant, in conditions for which treatments target TNF-α.

–Erin Miner

References

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