RE: Valerian-Hops Extract Combination Influences Brain Wave Activity


Excerpts from valerian (*Valeriana officinalis*) and hops (*Humulus lupulus*) have been used traditionally since the middle ages to induce sleep and for tranquilizing effects. The aim of this investigation was to objectively measure the pharmacodynamic effects of different dosages of an extract combination of the two herbs. The extract is known as ZE 91019, (IVEL® in Germany; ReDormin® in Switzerland, and Alluna® in the U.S., marketed by Glaxo Smith Kline). Two different dosages were applied in two single-blind, placebo controlled, cross-over observational trials in 12 healthy volunteers aged 18 to 30. (First dosage trial: 500 mg valerian extract and 120 mg hops extract versus placebo; first clinical trial; second dosage trial: 1,500 mg valerian extract and 360 mg hops extract versus placebo, second clinical trial).

For each volunteer, the qEEG data were calculated as median values of the absolute electrical power over 17 electrodes measured under different conditions “eyes open/eyes closed” and “concentration performance test” (CPT) within each frequency band. The quantitative EEG, as an objective method reflecting the functional brain state, plays an important role in providing objective criteria for the CNS (central nervous system)-active herbal preparations.

Within four hours of oral administration of two different dosages of ZE 91019 valerian-hops mix extracts, there were slight, though clear, visible EEG-power changes in healthy subjects. Of these, a power increase of the delta frequency, usually dominant in slow wave (deep) sleep, and a power decrease of the beta frequency, dominant in an alert or anxious state, were significant. An observed slight power reduction in the beta2-frequency band after application of the high dose combination of valerian and hops might be in connection with some known drug effects such as relaxation and positive influences in sleep disorders. The beta2-frequency band is known to be under control of GABA (γ-aminobutyric acid) ergic activity, so that changes in the neurotransmitter activity can be reflected in the electrical power of this frequency band. The CNS response to ZE 91019 is clearly demonstrated.
GABA is known as an inhibiting neurotransmitter, thought to be key for influences in stress and fear reactions. According to some literature data valerian produces an increase of the concentration of GABA at the synapses. In addition, clinical data also point to a GABAergic effect of the extract combination ZE 91019.

—Densie Webb, PhD

Enclosure: Original article reprinted with permission from the *European Journal of Medical Research*. Copyright © 2000.