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HERBCLIP

FILE: · **Yohimbe (*Pausinystalia johimbe*)**
· **Yohimbine**
· **Male erectile dysfunction**
· **Impotence**

DATE: July 1, 1998 HC 060481

RE: Yohimbine ¾ Clinical Study Shows Effects at Different Dose Levels

Reichert, R. Yohimbine Pharmacokinetics. *Quarterly Review of Natural Medicine*, Spring 1997, pp. 17-18.

In the wake of the media blitz on Viagra, the new drug from Pfizer to treat impotence in men, HerbClip editors thought it would be helpful to publish information on the classic herb used for impotence—yohimbe—and its primary alkaloid yohimbine.

Yohimbe (*Pausinystalia johimbe*) is a tall evergreen tree native to several West African countries. Yohimbe bark has traditionally been used as a sexual aphrodisiac, especially in male erectile disorders. Yohimbine, an indole alkaloid and principle active constituent of yohimbe, is believed to selectively block alpha-2 adrenergic receptors, increasing sympathetic nervous system activity and norepinephrine release (norepinephrine is the neurotransmitter for the sympathetic nervous system). The sympathetic nervous system coordinates the body's response to stress (the fight or flight response). The consumption of yohimbe is associated with sympathetic nervous system activities, such as perception of anxiety, antidiuresis (suppression of urine formation), increased motor activity (movement), and increased heart rate and blood pressure. In this article, Reichert reviews a double-blind, placebo-controlled study published in 1996 of the pharmacokinetics (biological availability, influence on the autonomic nervous system, and dose response) of yohimbine, an isolated alkaloid, on 32 healthy male volunteers (Grasing K., Sturgill MG, Rosen RC, *et al*. Effects of yohimbine on autonomic measures are determined by individual values for area under the concentration-time curve. *J Clin Pharmacol* 1996; 36:814-22.)

Four groups of eight subjects each received differing single oral doses of yohimbine hydrochloride (5.4, 10.8, 16.2, and 21.6 mg) or a placebo. A variety of physiological parameters and psychometric tests were performed at regular intervals after drug administration. Subjects with the highest blood concentrations of yohimbine demonstrated the highest increases in blood

pressure. Medial blood concentrations of yohimbine produced the highest levels of sympathetic neurotransmitters, suggesting that higher doses of the drug diminish its adrenergic blocking ability (thereby stimulating the sympathetic nervous system). No serious adverse events were noted during the trial. A high-fat breakfast decreased blood level concentrations of yohimbine by 30 percent. Another study found significant variability in the bioavailability of yohimbine among subjects. This may explain the mixed results of double-blind trials testing the efficacy of yohimbine in the treatment of male erectile disorders.

Reichert warns that although this study found no adverse effects, the use of yohimbine can significantly increase blood pressure at doses of 15 to 20 mg. (Twelve mg can induce a hypertensive crisis in patients taking tricyclic antidepressants). Yohimbine can provoke mania in patients with bipolar disorder. Yohimbine is also associated with bronchospasm, and some reports link long-term use with agranulocytosis (an acute abnormal condition of the blood that results in fever, prostration, and bleeding ulcers of the mouth, rectum, and vagina). While yohimbine may prove useful in the treatment of male erectile disorder, orthostatic hypotension, and narcolepsy, additional research into the pharmacokinetics of yohimbine is needed to reduce adverse effects and establish safe protocols for administration.
—*Leela Devi, MSN, RN*

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