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Hypnotic and general anesthetic effects of *Citrus aurantium* L. oil on rats**Khaled Abo-El-Sooud**
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Background & Aim: Central Nervous System (CNS) depressant drugs have many negative side effects including addiction, depression, suicide, convulsion, sexual dysfunction, headaches and amore. Moreover, these agents do not restore normal levels of neurotransmitters but instead influence the brain chemistry. In contrast to drugs, a number ethno-botanical products have been identified which reduce anxiety by re-establishing by altering both neurotransmitter levels in the absence of the severe side effects. The bitter orange fruit (*Citrus aurantium*) contains a number of phytochemicals of interest known to increase the production of dopamine. The purpose of this study is to evaluate *Citrus aurantium* L., oil ability to induce sedative/hypnotic and/or general anesthetic effects in experimental models.

Methodology & Theoretical Orientation: Essential oil from peel was obtained by steam distillation, then maintained and protected against light and heat until the pharmacological assays. The main component of the oil was determined by GC-MS. The LD₅₀ of the oil was determined to calculate the therapeutic dose. Experimental models were performed in this study to evaluate the hypnotic and anesthetic effects of *C. aurantium* as compared with thiopental sodium at a dose of (30 mg kg⁻¹) after Intra-Peritoneal injection (I/P).

Findings: The LD₅₀ of the oil was 300 mg kg⁻¹ of body weight after intra-peritoneal injection (I/P). The main component of the EOP was D-limonene. The CNS depressant effect of *C. aurantium* oil is dose dependent. At small dose there was an induction of hypnosis as righting reflex was absent with ataxia. At higher doses the oil induced anesthesia at 8 min and the consciousness is regained in about 25 minutes.

Conclusion & Significance: The use of animal model of hypnotic and ultra-short general anesthetic of *C. aurantium* oil significantly supports its use an adjunct for the treatment of insomnia and other CNS disorders.

Recommendations: Further evaluations are required to elucidate the detailed mechanism of CNS depressant activity and possible side effects of *Citrus aurantium* and the possibility of its use as alternative natural general anesthetic agent.

Biography

Khaled Abo-El-Sooud is currently a Professor of Pharmacology in Cairo University, Egypt. He has his expertise in radioisotopes and chromatography (GC-HPLC-TLC etc.) for detection of drug residues.

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