

Effects of central administration of *Coriandrum sativum* essential oil on anxiety-like behavior in chicks

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Coriandrum sativum ("cilantro") is an herb with culinary use. *Coriandrum* essential oil (CEO) is an aromatic complex mixture of volatile terpenes with antibacterial, antifungal, antioxidant activity and when it is systemically administered it has anxiolytic and antidepressant effects. Linalool is a major constituent of CEO and its inhalation has anxiolytic and sedative effects. Several studies have attempted to elucidate the action of CEO on the central nervous system, however few studies shown the effect of its central administration on the behavior. We evaluated the effect of CEO and linalool centrally administered on anxiety-like behavior in 4-7 day-old chicks. CEO was obtained from seeds of cilantro by hydrodistillation (characterized by GC-MS spectroscopy: linalool major constituent) and pure linalool was purchased from Sigma-Aldrich. Both were intracerebroventricularly injected at doses of 0.01, 0.1 and 1 µl/chick at a volume of 10 µl. Each animal was exposed to open-field test for 10 min and latency to ambulate, number of ambulations and latency to defecate were registered. CEO (0.1 and 1 µl/chick) significantly increased the ambulation latency and decreased the number of ambulations in open-field test. However, no significant increase for defecation latency was observed. On the other hand, linalool significantly decreased the ambulation latency at doses of 0.1 and 1 µl /chick. The number of ambulations and defecation latency significantly decreased only at dose of 0.1 µl/chick. Therefore, CEO exerted an anxiogenic-like action when it was centrally administered in chicks exposed to an open-field test. This effect may have been produced by other compounds present in minor proportion in CEO but not by linalool. Respect to the decrease in the number of ambulation observed, a synergic effect between linalool and others terpenes of the essential oil should not be discarded.

Keywords: *Coriandrum* essential oil, Linalool, Anxiety-like behavior