Effect of Hydro-alcoholic Extract of Lavandula Officinalis on the Levels of Interleukin-1β and Interleukin-6 in Brain Tissue of Morphine Dependence Male Mice
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Background: Opioids such as morphine alter immune function and decrease host resistance to microbes in experimental animal models. On the other hand, Lavandula Officinalis (L.O) have been used for sterilization and wound recovery in traditional medicine. In this paper we studied amount of interleukin-1β and interleukin-6 in brain tissue of morphine dependence male mice and the effects of (L.O) extract on these factors. Materials and Methods: Morphine dependence, was induced by injection of gradually increasing doses during 15 doses within 8 days. Animals divided into 2 classes: In the 1st class, lavandula extract was administrated 30 min before the last injection of morphine and in the 2nd class, it was done 30 min prior to each morphine injection. Naloxone was injected 2 hrs after the last morphine injection on the 8th day. On the 9th day, the animals were anesthetized by ether and sacrificed and then their brains were removed. The brains were homogenized and centrifuged after washing by cold saline and adding triss buffer. Then supernatant was used for measuring of factors.

Results: Interleukin-1β increased and interleukin-6 decreased in morphine dependence mice significantly. Chronic administration of (L.O) extract (200 mg/kg), significantly decreased amount of interleukin-1β to the base level, but acute utilization of (L.O) (200, 400mg/kg) slightly attenuated interleukin-6 level. Likewise, chronic administration of (L.O) extract (200 mg/kg) significantly potentiated the effect of morphine reduction on interleukin-6 level, whereas acute administration of it had no significant effect.

Conclusion: morphine dependence changed the level of interleukin-1β and interleukin-6 in brain tissue and (L.O) extract can modulated them, dose dependently.

Keywords: Lavandula Officinalis, dependence, morphine, mice, interleukin1β, interleukin6