

## **Evaluation of the extract of the aerial parts of *Artemisia austriaca* on the development of tolerance to morphine analgesia in rat**

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**Background and Aims:** The present study was designed to evaluate the effect of the extract of the aerial parts of *Artemisia austriaca* on the development of tolerance to morphine analgesia in rat.

**Methods:** Male Wistar rats were used in this study. The extract was injected intraperitoneally (100,200,400 mg/kg) 30 min before the injection of morphine intraperitoneally (10mg/kg). 30 min later the Latency Time were measured on hot plate.

**Results:** Intraperitoneal (i.p.) administration of the extract of *A.austriaca* delayed the tolerance to morphine. Tolerance to morphine in the group of rats that received just morphine, occurred in 13th day, but with the co administration of the extract of *A.austriaca* with doses 100, 200, 400 mg/kg it happened in 21, 19, 27th days respectively. AUC in the groups of rats which received both extract and morphine was increased dose dependently. Also the analgesic effect was seen in the evaluation of this extract.

**Conclusions:** These findings showed that the extract of *A.austriaca* can delay the tolerance to morphine. May be it is because of the presence of flavonoides or some antioxidants. But this study is on the whole extract of *A.austriaca* and it is needed to fragment the extract and inject in different ways.

**Keywords:** Tolerance; Latency time; AUC