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## Study of geometric and histopathological effects of essential oil of *Pelargonium roseum* in comparison with phenytoin after surgical trauma on rat's skin

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**Objectives:** *Pelargonium roseum* belongs to the family of Geraniales. Recent reports indicate that the essential oil of this plant can inhibit the experimentally induced paw and ear edema in laboratory animals. On the other hand, in some countries phenytoin is formulated as an accelerator of wound healing. The purpose of this study was to evaluate the efficacy of essential oil of *Pelargonium roseum* in comparison with phenytoin after surgical trauma on rat's skin. **Methods:** For this purpose, 4 full-thickness skin excision were induced on the back of 60 female Wistar rats by punching. Then these animals were divided into 6 groups randomly. The first and second groups were determined as *Pelargonium*-treated groups, third and fourth groups as phenytoin-treated groups, and fifth and sixth groups as control. Duration of treatment was 21 days. The wounds in first, third and fifth groups were photographed daily for histometrical study and finally analyzed with scion image software. In second, fourth and sixth groups in order to do the histopathological study in days 0, 3, 7, 14 and 21, two rats of each group were sampled randomly and then these rats were eliminated. **Results:** Groups that were treated with the essential oil, showed the best healing from the point of view of wound contraction, inflammation, re-epithelialization, fibroplasia, neovascularization, collagenization and maturation of connective tissue. On the other hand phenytoin showed the worst healing. The differences were statistically significant. **Conclusion:** In full-thickness skin excisions, The essential oil of *Pelargonium roseum* accelerates healing process and phenytoin has an inhibitory effect on this process.

**Keywords:** *Pelargonium roseum*, phenytoin, healing, skin, rat.

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## Prevention effect of *Matricaria chamomilla* on withdrawal syndrome in morphine dependent rats

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Addiction to opiates such as morphine is one of the major public health problems. Some reports show that *Matricaria chamomilla* extract contains flavonoids, which exert Benzodiazepine-like activity and inhibited the expression of abstinence syndrome in morphine-dependent animals. **Objective:** To determined and comparison the effect of *Matricaria chamomilla* extract injection on morphine withdrawal syndrome signs (MWS) in rats. **Methods:** 30 male rats (200-300gr) (n=6) were tested in 2 groups: control and morphine groups ( twice daily for 7 days) and divided in 4 sub groups: saline group which was received only saline and Mc group were received Mc extract (10, 20, 50mg/kg I.P) in day 7, 30 min before naloxan administration. In the end of training day all groups were received naloxane (5mg/kg I.P) 3hour after last injection of morphine and then the frequencies of withdrawal behavior were assessed for 30min. **Finding:** Our results show that I.P administration of MC extract dose dependently attenuates most of morphine withdrawal syndrome. **Conclusion:** These result suggested that injection of MC extract in to the I.P is helpful for morphine withdrawal syndrome treatment.

**Keywords:** *Matricaria chamomilla*, withdrawal syndrome, Morphine dependent rats