## INVESTIGATING EFFECT OF TWO DIFFERENT ANIMAL OILS ON **TREATING SECOND-DEGREE BURN WOUND IN RATS (P209)**

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Introduction and objective: Burning is one of the most conventional traumas. According to the World Health Organization's report, more than 300,000 deaths are solely related to fire incidents in the world. Long-term care and high costs of treatment and rehabilitation lead to increased tendency of researchers in complementary therapies and using the compounds which have natural origin and are cheaper. In recent studies, the oil extracted from fat tissue of animals such as fish, ostrich, and crocodile hasattracted the attention of traditional medicine researchers. Sheep ghee, known as yellow oil, is one of the compounds used in many parts of Iran, especially southern regions such as Kahnooj, Jiroft, and Bafgh for wound healing. Also, donkey oil which was first entered into Iran from Armenia is especially used by Christians for pain relief and wound healing. Considering that burn treatment is done in a non-standard and traditional way using these oils in some parts of the country and also few studies have been performed on the effect and rate of these materials on burn wound healing, the present work is aimed to investigate the effect of these two oils on burn wound healing in rats.

Methods and materials: First, 48 adult male Sprague-Dawley rats with the relative weight of 250-300 g were selected and second-degree burn with the depth of  $2 \times 4$  cmwas induced in them. Then, they were randomly divided into 4 groups, 12 in each. To dress the burn point in 1 to 4 groups, silver sulfadiazine cream, donkey oil, ghee, and Vaseline were used, respectively. Dressing was continued on a daily basis until complete healing and the recovery process was monitored by imaging once per 5 days using an accurate ruler and Image J software. On the 17<sup>th</sup> and 30<sup>th</sup> days, to study the epithelialization rate, degree and arrangement of collagen, and chronic and acute inflammatory cells, the sample of burn wound was sent for pathological investigation.

**Results:** Results showed that, on days 5, 15, and 25, wound area was significantly reduced in ghee, donkey oil, and Vaseline groups compared with silver sulfadiazine cream but the difference between two animal oils and Vaseline were not significantly different.

**Conclusion:** This study showed that, in contrast to the public belief in some regions in Iran and religious minorities, donkey oil and ghee could not accelerate healing of burn wound or promote histopathological indices. Therefore, they are not recommended ad burn treatment ointments. Considering the obtained results, silver sulfadiazine cannot be a good option for treating seconddegree burn because of causing delayed healing. Since this cream is used for its anti-microbial effects, it is better to select a more appropriate antibiotic for second-degree burns.