

Effect of ozonated olive oil on experimentally induced skin infection by *Streptococcus pyogenes* and *Staphylococcus aureus* in rats

Kemal Varol^{1*}, Fatih Mehmet Birdane² & Ihsan Keles¹

¹Department of Internal Medicine, Faculty of Veterinary Medicine, University of Erciyes, Kayseri-38100 Turkey

²Department of Internal Medicine, Faculty of Veterinary Medicine, University of Afyon Kocatepe, Afyonkarahisar-03200, Turkey

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Antibiotic resistance problem is one of the most important problems in treating infectious diseases. To overcome such problems, agents apart from antibiotics that can be used in the treatment of infectious diseases and have no resistance problem should be explored. Natural substances, such as vegetable oils and ozone are possible resources. Thus, in the present study, we investigated the effect of ozonated olive oil on experimentally induced skin infection by *Streptococcus pyogenes* and *Staphylococcus aureus* in rats. The study was performed on 3 main groups. Experimental skin infection was induced by *S. pyogenes* (Group 1) or *S. aureus* (Group 2). Animals in Groups 1.1 (n=10) and 2.1 (n=10) received ozonated olive oil, in Groups 1.2 (n=10) and 2.2 (n=10) received olive oil, in Groups 1.3 (n=10) and 2.3 (n=10) received fusidic acid on the infection side in their skin at 24, 28, 32, 40, 48, 56, 64, 72, 80, 88, 96 hours. Groups 1.4 (n=11) and 2.4 (n=11) did not receive any treatment after infection. Group 3 (n=11) received only serum physiologic at above mentioned periods. After occurrence of the skin infection; ozonated olive oil had anti-microbial, anti-inflammatory effects and observed to have healing activity at 72-80 h after infection. Furthermore, the effects of ozonated olive oil were comparable with the effects of fusidic acid which its activity proved against skin infections with *Staphylococcus* and *Streptococcus*.

Keywords: Fusidic acid, Olive oil, Ozonated oil, Ozone, Ozone therapy