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ORIGINAL ARTICLE

## Anti-inflammatory effects of hyperbaric oxygen on irradiated laryngeal tissues

Mitat Arıcıgil<sup>a,\*</sup>, Mehmet Akif Dündar<sup>a</sup>, Abitter Yücel<sup>b</sup>, Hamdi Arbağ<sup>a</sup>,  
Abdullah Arslan<sup>c</sup>, Meryem Aktan<sup>d</sup>, Sıdıka Fındık<sup>e</sup>, İbrahim Kılıncı<sup>f</sup>

<sup>a</sup> Necmettin Erbakan University, Department of Otorhinolaryngology Head and Neck Surgery, Konya, Turkey

<sup>b</sup> Horasan State Hospital, Department of Otorhinolaryngology Head and Neck Surgery, Erzurum, Turkey

<sup>c</sup> Necmettin Erbakan University, Department of Undersea and Hyperbaric Medicine, Konya, Turkey

<sup>d</sup> Necmettin Erbakan University, Department of Radiation Oncology, Konya, Turkey

<sup>e</sup> Necmettin Erbakan University, Department of Pathology, Konya, Turkey

<sup>f</sup> Necmettin Erbakan University, Department of Biochemistry, Konya, Turkey

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### KEYWORDS

Hyperbaric oxygen;  
Neck radiotherapy;  
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### Abstract

**Introduction:** To manage the complications of irradiation of head and neck tissue is a challenging issue for the otolaryngologist. Definitive treatment of these complications is still controversial. Recently, hyperbaric oxygen therapy is promising option for these complications.

**Objective:** In this study, we used biochemical and histopathological methods to investigate the efficacy of hyperbaric oxygen against the inflammatory effects of radiotherapy in blood and laryngeal tissues when radiotherapy and hyperbaric oxygen are administered on the same day.

**Methods:** Thirty-two Wistar Albino rats were divided into four groups. The control group was given no treatment, the hyperbaric oxygen group was given only hyperbaric oxygen therapy, the radiotherapy group was given only radiotherapy, and the radiotherapy plus hyperbaric oxygen group was given both treatments on the same day.

**Results:** Histopathological and biochemical evaluations of specimens were performed. Serum tumor necrosis factor- $\alpha$ , interleukin-1, and tissue inflammation levels were significantly higher in the radiotherapy group than in the radiotherapy plus hyperbaric oxygen group, whereas interleukin-10 was higher in the radiotherapy plus hyperbaric oxygen group.

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\* Corresponding author.

E-mail: [maricigil79@gmail.com](mailto:maricigil79@gmail.com) (M. Arıcıgil).

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