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# The role of hyperbaric oxygen therapy in the treatment of radiation lesions

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## Abstract

**Introduction:** Cancer remains one of the leading causes of death worldwide, with 50-60% of patients requiring radiotherapy during the course of treatment. Patients' survival rate has increased significantly, with an inevitable increase in the number of patients experiencing side effects from cancer therapy. One such effect is late radiation injuries in which hyperbaric oxygen therapy appears as complementary treatment. With this work we intend to divulge the results of applying hyperbaric oxygen therapy among patients presenting radiation lesions in our Hyperbaric Medicine Unit.

**Materials and methods:** Retrospective analysis of clinical records of patients with radiation lesions treated at the Hyperbaric Medicine Unit assessed by the scale Late Effects of Normal Tissues-

Subjective, Objective, Management, Analytical (LENT-SOMA) before and after treatment, between October 2014 and September 2019 were included. Demographic characteristics, primary tumor site, subjective assessment of the LENT-SOMA scale before and after treatment were collected and a comparative analysis (Students t test) was done.

**Results:** 88 patients included: 33 with radiation cystitis, 20 with radiation proctitis, 13 with osteoradionecrosis of the mandible and 22 with radiation enteritis. In all groups, there was a significant decrease ( $p < 0.005$ ) in the subjective parameter of the LENT-SOMA scale.

**Discussion:** Late radiation lesions have a major influence on patients' quality of life. In our study hyperbaric oxygen therapy presents as an effective therapy after the failure of conventional treatments.

**Conclusion:** Hyperbaric oxygen therapy is an effective complementary therapy in the treatment of refractory radiation lesions.

**Keywords:** Cystitis; Hyperbaric oxygen therapy; Osteoradionecrosis; Proctitis; Radiation induced.

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