**HYPERBARIC OXYGEN THERAPY FOR OSTEORADIAONECROSIS OF THE MANDIBLE**

**Adjunctive hyperbaric oxygen in irradiated patients requiring  dental extractions: outcomes and complications.**

[Chavez JA](http://www.ncbi.nlm.nih.gov/pubmed/?term=Chavez%20JA%5BAuthor%5D&cauthor=true&cauthor_uid=11326374)1, [Adkinson CD](http://www.ncbi.nlm.nih.gov/pubmed/?term=Adkinson%20CD%5BAuthor%5D&cauthor=true&cauthor_uid=11326374).

**Abstract**

**PURPOSE:**

This study assessed complications of hyperbaric oxygen (HBO) therapy, potential predictors of poor outcome, and treatment outcomes in irradiated patients undergoing dental extractions.

**PATIENTS AND METHODS:**

This was a prospective, descriptive study of 40 consecutive patients treated with HBO before and after dental extractions in an irradiated field. All patients had radiation caries; none had osteoradionecrosis (ORN). All were prescribed a protocol of 20 pre-extraction and 10 post extraction HBO treatments at 2.4 ATA for 90 minutes. Potential risk factors for poor healing and risk factors for complications were identified. All complications were recorded. Extraction site healing was evaluated at the conclusion of HBO therapy, at 1 month, and 1 year later.

**RESULTS:**

There were no serious complications. There was no correlation between preidentified risk factors and poor healing. At 1 year, 98.5% of all extraction sites were healed. Patients who did not heal were an average of 8 years since radiation, compared with 3.3 years for those who healed (P <.001).

**CONCLUSION:**

Use of HBO is associated with a very low incidence of ORN at 1-year follow-up. However, the time since radiation has a positive correlation with risk for ORN.

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**Hyperbaric oxygen treatment for osteoradionecrosis of the jaw**

**A retrospective study of outcomes in subjects of head and neck cancer treated with hyperbaric oxygen therapy for radiation induced osteoradionecrosis of mandible at a tertiary care centre: an Indian experience.**

[Gupta P](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gupta%20P%5BAuthor%5D&cauthor=true&cauthor_uid=24427631)1, [Sahni T](http://www.ncbi.nlm.nih.gov/pubmed/?term=Sahni%20T%5BAuthor%5D&cauthor=true&cauthor_uid=24427631)2, [Jadhav GK](http://www.ncbi.nlm.nih.gov/pubmed/?term=Jadhav%20GK%5BAuthor%5D&cauthor=true&cauthor_uid=24427631)3, [Manocha S](http://www.ncbi.nlm.nih.gov/pubmed/?term=Manocha%20S%5BAuthor%5D&cauthor=true&cauthor_uid=24427631)3, [Aggarwal S](http://www.ncbi.nlm.nih.gov/pubmed/?term=Aggarwal%20S%5BAuthor%5D&cauthor=true&cauthor_uid=24427631)4, [Verma S](http://www.ncbi.nlm.nih.gov/pubmed/?term=Verma%20S%5BAuthor%5D&cauthor=true&cauthor_uid=24427631)4.

**Abstract**

Osteoradionecrosis (ORN) of the mandible is a rare complication of radiation therapy for head and neck cancer. It manifests as an area of exposed necrotic bone failing to heal for at least 3 months. Our study aims to determine the effectiveness of HBO in management of radiation induced mandibular ORN. A retrospective study of 33 subjects of mandibular ORN treated with HBOT during period 2009-2011 was carried out. The mean patient age was 60 years (range 41-80).They were treated in a multiplace hyperbaric chamber at 2.4 ATA, for 90 min once a day for up to 30 sessions. Pre and post treatment improvement in relation to symptoms, healing of intraoral wound and overall wellbeing were evaluated. Out of 33 Subjects, 48 % (n = 16) cases showed complete healing of wound, 18 % (n = 6) had marked healing, slight healing in 24 % (n = 8) cases and 9 % (n = 3) cases had no change in healing. 70 % (23 of 33) cases had significant reduction in pain, 62 % (18 of 29) cases had improved jaw opening, 41 % (11 of 27) cases and 71 % (20 of 28) cases showed improvement in ability to talk and mouth dryness respectively. Overall 85 % (28 of 30) cases showed improvement. Our clinical experience supports the efficacy of HBO treatment for radiation induced mandibular ORN and we recommend additional multicentric, prospective studies to be carried out defining the role of HBOT using at least 30 sessions in such cases.

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**Role of hyperbaric oxygen therapy in the management of mandibular osteoradionecrosis.**

[Mounsey RA](http://www.ncbi.nlm.nih.gov/pubmed/?term=Mounsey%20RA%5BAuthor%5D&cauthor=true&cauthor_uid=8502093)1, [Brown DH](http://www.ncbi.nlm.nih.gov/pubmed/?term=Brown%20DH%5BAuthor%5D&cauthor=true&cauthor_uid=8502093), [O'Dwyer TP](http://www.ncbi.nlm.nih.gov/pubmed/?term=O%27Dwyer%20TP%5BAuthor%5D&cauthor=true&cauthor_uid=8502093), [Gullane PJ](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gullane%20PJ%5BAuthor%5D&cauthor=true&cauthor_uid=8502093), [Koch GH](http://www.ncbi.nlm.nih.gov/pubmed/?term=Koch%20GH%5BAuthor%5D&cauthor=true&cauthor_uid=8502093).

**Abstract**

Hyperbaric oxygen (HBO) has been used as a tool in the management of osteoradionecrosis (ORN). However, it has not been conclusively proven to be of benefit. The precise role and guidelines for its use also have not been clearly defined. This report retrospectively analyzes 41 patients treated at the Hyperbaric Chamber Unit at the Toronto Hospital (Toronto General Division) with proven mandibular ORN from 1980 to 1985. The results show that 83% of the patients had a significant improvement with HBO therapy, judged by at least a 50% decrease in the size of the exposed bone, closing of the fistulous tract, or complete relief of symptoms. Within the group of patients who were significantly improved, 15% showed complete resolution of ORN. Seven (17%) of the patients did not benefit from the HBO. All seven patients had radiological evidence of dead bone. Based on these observations, the following conclusions can be made: 1. HBO is of benefit in the management of ORN. 2. Patients with ORN may be divided into two groups: mild and severe. 3. Cases of mild ORN will heal with HBO alone, but, in severe ORN, surgery is necessary to remove dead bone. 4. All patients with ORN should receive dental evaluation, local wound care, and a strict oral hygiene regimen. Diseased teeth should be removed prior to radiotherapy. Subsequently, any teeth that became abscessed should be extracted in conjunction with prophylactic HBO. Antibiotics play an ancillary role in the management of ORN. For patients who have received radiation to the mandible, the authors propose regular follow-up in order to detect ORN at a time when HBO can arrest the disease.