

The Use of Hyperbaric Oxygen Therapy in Dentistry

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Dear Editor,

We appreciate the article "Hyperbaric Oxygen Therapy(HBOT) - Can It Be the New Era in Dentistry?" written by Devaraj et al., [1]. In present review, the authors have mentioned the history, mode of action, indications, contraindications, complications and the applications of hyperbaric oxygen therapy in dentistry. Thanks to the authors for their contribution on the literature.

HBOT is increasingly used to treat the many conditons. In the present review, HBOT is defined as administration of 100% oxygen to a patient with a pressure greater than one atmosphere at sea level. According to the Undersea and Hyperbaric Medical Society (UHMS) committee report 2003 and most hyperbaric medicine specialists, the oxygen pressure should be applied 1.4 atmospheres absolute (ATA) as the minimum therapeutic dosage to gain benefit from hyperbaric oxygen therapy. Besides the mentioned 13 approved indications of hyperbaric oxygen therapy, sudden hearing loss is also approved by UHMS Board of Directors since October 8, 2011 [2]. The authors stated "Asymptomatic pulmonary lesions which are seen on chest. X- ray" as one of the contraindications of hyperbaric oxygen therapy. We agree with the authors. Air cysts or blebs in the lungs may predispose pulmonary barotrauma (PBT) by causing air trapping. Interestingly, Toklu et al., surveyed 98 European HBO centres for their attitude to patients with bleb and bullae. They found that a significant portion of the HBO centers accept patients with pulmonary bleb or bullae, X-ray is the mostly used screening tool for

patients with a history of pulmonary disease and the prevalence of pulmonary barotrauma in these centers was found only 0.00045%, surprisingly [3]. These study results make us to question the outcome of asymptomatic pulmonary lesions. Furthermore X-Ray screening tool has a low sensitivity for this kind of lesions.

The authors mentioned about the pressure equalization problems which predominantly affect the middle ear and the nasal sinus. We think that additionally to these concerns, barotraumatic lesions can occur in any trapped air e.g. dental abscess after failed filling or in periodontitis and subgingival anaerobes which may cause gaseous lesions. These lesions can cause a very strong sharp pain particularly in the ascent phase of the hyperbaric oxygen therapy when the pressure decreases and volume begins to re-expanse.

As a conclusion, hyperbaric oxygen therapy provides the most benefit in tissues with vessels which have good blood flow, the anatomical structure of the mouth with its rich vascular beds is an advantage to benefit from this treatment. So we support the idea of using this treatment modality in dentistry.

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