

CORRESPONDENCE

Hyperbaric oxygen treatment

To the Editor:

I read with great interest the study by THORSEN *et al.* [1], describing a progressive reduction in the forced expiratory volume in one second (FEV₁) and forced mid-expiratory flow (FEF_{25–75%}) rate during the course of a routine series of hyperbaric oxygenation (HBO) sessions. In the abstract and introduction sections of the manuscript, the authors claim that "...the effect of the cumulative oxygen exposure corresponding to a standard HBO treatment protocol has not been quantified before...".

This statement is not accurate. We have previously described the effects on pulmonary function of consecutive daily exposures to a routine HBO treatment protocol (250 kPa for 95 min) in a group of 13 patients treated for problem wounds [2]. The effects of dry *versus* humidified oxygen exposures were compared in a crossover design over five HBO sessions. When breathing humidified oxygen, a gradual decline was observed in the percentage of FEV₁ and in FEF_{25–75%}, reaching a maximal decrement of 3.2% and 8.6%, respectively. These results, although not discussed by THORSEN *et al.* [1], are very similar to their 14th HBO session checkpoint. Thus, similar flow limitations in the peripheral airways secondary to routine HBO were described in both studies, demonstrating the absence of significant pulmonary oxygen toxicity.

A. Shupak

Israel Naval Medical Institute, PO Box 8040, 31 080 Haifa, Israel. Fax: 972 48693240.

From the authors:

We thank A. Shupak for the interest in and comments on our work published in the *European Respiratory Journal* [1].

A. Shupak is correct that they have described effects of routine hyperbaric oxygen treatment for 10 days on pulmonary function in the year before our work was published [2]. We do apologize for not being aware of and having picked up that paper at the time for preparation and review of our manuscript.

There is no basic disagreement on results. Similar flow limitations in the peripheral airways secondary to routine hyperbaric oxygen therapy were described in both studies. We do not consider this effect to be of clinical significance. However, the effect is physiologically significant and of interest as it may be modulated by the water content of inspired gas as the study by SHUPAK *et al.* [2] may indicate. That finding has to be confirmed. It is also of interest in the discussion of long term effects of diving on the lung. A similar pattern of changes in lung function variables has been described in cross-sectional studies of professional divers.

E. Thorsen

Dept of Hyperbaric Medicine, Haukeland Hospital, N-5021 Bergen, Norway. Fax: 47 55975137.

References

1. Thorsen E, Aanderud L, Aasen TB. Effects of a standard hyperbaric oxygen treatment protocol on pulmonary function. *Eur Respir J* 1998; 12: 1442–1445.
2. Shupak A, Abramovich A, Adir Y, *et al.* Effects on pulmonary function of daily exposure to dry or humidified hyperbaric oxygen. *Respir Physiol* 1997; 108: 241–246.