

Letter to the Editor

Hyperbaric Protocols for Idiopathic Sudden Sensorineural Hearing Loss

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Dear Editor,

I read with interest the article authored by Ahn and colleagues on their experience assessing the effectiveness of hyperbaric oxygen therapy (HBOT) in sudden sensorineural hearing loss.¹ They have concluded that HBOT is not of use in patients with greater than 80-dB loss. This is not consistent with a recent meta-analysis by Rhee, which suggested those with greater loss derive greatest benefit.² Additionally, our own outcome data suggest that early intervention improves outcomes when using HBOT.³

As the data provided in Table 1 did not give the reader information to enable the comparison of groups for a similar duration of hearing loss and time until HBOT was instituted, it is hard to discern if the groups were the same. The hyperbaric protocol was not clearly described (10-20 treatments presumably by clinician discretion and with no treatment endpoints for HBOT given). This means it is difficult to assess the validity of their conclusions as those with the longest period of symptoms may have been differently distributed between groups.

Specifically, very little detail was provided in relation to HBOT protocols. Was the treatment given daily, that is, was it given on successive days (weekends) and what determined who received hyperbaric and how many they would receive? Without these details, it is difficult to interpret their results or allow others to replicate the study prospectively.

The use of HBOT in this condition is difficult to justify given the continued publication of small retrospective trials and the mixed conclusions this leads to. The Cochrane reviews in this area have repeatedly called for better-designed trials, and it is well overdue that a well-designed trial is performed in this area.⁴

I invite the authors to provide further details regarding the timing of HBOT commencement and the protocols in their institution for recommending the addition of HBOT, number, and whether delivered for successive days or only on weekdays.

Peer Review: Externally peer-reviewed.

Conflict of Interest: The author has no conflict of interest to declare.

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REFERENCES

1. Ahn Y, Seo YJ, Lee YS. The effectiveness of hyperbaric oxygen therapy in severe idiopathic sudden sensorineural hearing loss. *J Int Adv Otol.* 2021;17(3):215-220. [\[CrossRef\]](#)
2. Rhee TM, Hwang D, Lee JS, Park J, Lee JM. Addition of hyperbaric oxygen therapy vs medical therapy alone for idiopathic sudden sensorineural hearing loss: a systematic review and meta-analysis. *JAMA Otolaryngol Head Neck Surg.* 2018;144(12):1153-1161. [\[CrossRef\]](#)
3. Sherlock S, Thistlethwaite K, Khatun M, Perry C, Tabah A. Hyperbaric oxygen therapy in the treatment of sudden sensorineural hearing loss: a retrospective analysis of outcomes. *Diving Hyperb Med.* 2016;46(3):160-165.
4. Bennett MH, Kertesz T, Perleth M, Yeung P, Lehm JP. Hyperbaric oxygen for idiopathic sudden sensorineural hearing loss and tinnitus. *Cochrane Database Syst Rev.* 2005;1:CD004739. [\[CrossRef\]](#)

Author's Response

In the view of otologist, the patients with greater than 80 dB loss have worse prognosis with many evidence, even though additional treatment like intratympanic steroid injection. It means that even hyperbaric oxygen therapy could not be sole treatment for profound S-SNHL. There is no evidence of certain pathophysiology by HBOT for treatment in those patients. We thought that the patients with profound deafness would have a refractory recovery by any treatment. Our data is the reliable evidence that HBOT would have limited indications for the patients with S-SNHL.

This study is a retrospective study. We could recommend the HBOT treatments to the patients. But, without enough evidence of HBOT on the S-SNHL, the patients could choose their treatment periods of HBOT. We suggested that the patients would get better results if they get HBOT over 10 times with our previous evidences. We supported the continuous schedules of HBOT daily even though weekends (Our HBOT center runs every day for patients.)

Most of previous HBOT treatments on S-SNHL used in Cochrane review were performed by not ENT specialist. HBOT would not be

suggested for an initial treatment in Korean otorhinolaryngology society until now. We need to consider the reason why the HBOT is not recommended for the initial and sole treatment by otologic society.

We intended to set the appropriate indications of the HBOT for the S-SNHL in this study.

If HBOT would be applied clinically with common sense of otologic specialist, we need to understand the disease well. The S-SNHL is not single disease entity, but collected diseases occurred by many different causes.

We will find the certain range of S-SNHL response to HBOT later.

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