Grommets in HBOT patients: GA vs LA, unanswered questions

We read with interest the article on grommet procedures for patients undergoing hyperbaric oxygen therapy (HBOT),[1] and have a number of comments. It appears the authors may have missed a number of cases. In a previous paper from The Townsville Hospital Hyperbaric Unit (TTH HMU), Commons et al presented 14 of 106 patients (13%) who required grommets over the period between June 2009 and May 2010.[2] These patients are included in the Lamprell et al data set. Figure 1 shows an apparent spike in their cases in 2010 (n = 13, part of the period covered in the previous paper) when compared to the remaining four years of their study (mean number of cases 4.5 per year, for an incidence of 3%). This difference in incidence is statistically significant ($\chi^2 = 8.336$, df = 1, $P = 0.004$).

We suspect the difference may be the result of missed cases rather than a true spike; however, it is not possible to determine this from the paper. Lamprell et al describe identifying cases using the TTH HMU patient database. Did the authors also consider using the operating theatre database and/or ENT clinic records to ensure all cases were captured?

We also have concerns regarding Lamprell's primary outcome measure: time from ENT referral to date of re/commencement of HBOT. These data are presented as median values with the associated ranges, rather than an interquartile range (IQR), the traditional measure of dispersion in non-parametric data. We believe the data sets contain a number of outliers that should be excluded, e.g., 98 days. We ask to see the IQRs and box-and-whisker plots for both data sets, and suspect the statistically significant difference in medians might not remain with outliers excluded from the analysis. There is also no discussion about the clinical relevance of this difference of seven days. Based on the most common indications for HBOT listed, most patients would have received at least 30 daily sessions of HBOT. What impact does a delay of seven days have on their treatment?

As doctors who have worked at this HMU, we know patients preferentially received their grommets under GA prior to 2012 at the request of the ENT surgeon, who believed that insertion under LA was poorly tolerated. The authors do not describe whether the insertion of grommets under LA was associated with patient discomfort; a limitation of this retrospective paper, but a clinically relevant factor in the decision-making process of which form of anaesthesia to use.

The paper by Lamprell et al has shown us that patients may experience a more rapid insertion of grommets and return to HBOT, if inserted under LA versus GA, but this difference may not be important clinically. We believe the authors may have failed to collect all cases and exclude outliers and this, coupled with the lack of documentation about patient satisfaction with insertion under LA, leaves us with more questions than answers.

References

1 Lamprell L, Young D, Vangaveti V, Orton J, Suruliraj A. Retrospective review of grommet procedures under general versus local anesthesia among patients undergoing hyperbaric oxygen therapy. *Diving Hyperb Med*. 2014;44:137-40.

2 Commons KH, Blake DF, Brown LH. A prospective analysis of independent patient risk factors for middle ear barotrauma in a multiplace hyperbaric chamber. *Diving Hyperb Med.* 2013;43:143-7.

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Key words

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