

Commentary: Hyperbaric oxygen treatment for wounds – evidence and the Sword of Damocles

Increased access to any treatment sensibly follows the clinical and cost benefit being established. For many treatments this requires multiple, high-quality clinical trials and supporting cost analysis. Cost analysis may be applied to a single treatment or used to compare two or more treatments. Clinical efficacy and cost benefit are best scrutinised and validated by publication in the peer-reviewed literature. True peer review is most effectively achieved ‘after publication’ by the wider scientific community, i.e., the journal readers. However, initially an editor, usually advised by referees, is asked to make a judgment on a paper’s suitability for publication. It follows that medical journals are in a position of power and responsibility. Researchers and editors know publications are currency; effectively they are the equivalent of academic bitcoins.

Regarding the paper in this issue by Santema et al.,¹ the same authors, in designing a prospective randomised controlled trial (RCT) of the role of hyperbaric oxygen treatment (HBOT) in diabetic wounds, included the name “*Damocles*” in that trial’s title.² Readers will perhaps appreciate from my comments below as a referee for the Santema et al. paper, that behind the scenes “*the Sword of Damocles*” (an allusion to the imminent and ever-present peril faced by those in positions of power) hangs over researchers, treating physician, journal editors and referees alike.

Whilst positive about its content, upon reflection, my concern was the anticipated reception of this paper by the journal readership. This is, of course, a matter for the Editor; however, herewith is my reasoning. Further to the body of published work by Bennett et al.,³ and others that has focused attention on the lack of good quality evidence for the use of HBOT for most indications, I think this regrettable state of affairs is now both known and accepted by mainstream healthcare purchasers and providers.⁴⁻⁷ I speculate that all these bodies already acknowledge and accept this manuscript’s conclusions. Accordingly, this situation detracts from an opportunity for it to stand out from existing publications. The authors are addressing this known lack of evidence with their planned DAMOCLES multicentre RCT.² Others in mainstream medicine in a position to design and implement clinical research (to whom the paper is presumably aimed) will also be acutely aware of the shortcomings in the available evidence.

Accepting the sample size required for economic evaluation may be greater than that required to establish only clinical effectiveness, it remains the case it would be all but impossible to secure research funding for a trial in the absence of such analysis. This means the conclusions of the present paper are already widely acknowledged. If one accepts the above, it follows that its impact on the journal readership will be relatively light.

The journal’s review process asks referees to consider if the manuscript is “*within the journal’s scope*”, and about “*the importance (clinical or otherwise) of the work*”. I think this paper is within the scope and is important. However, in the light of the known and accepted need for further research that includes an economic evaluation, I find myself questioning the ‘importance’ and ‘utility’ to the journal readership of the information provided.

References

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Key words

Wounds; hyperbaric oxygen therapy; cost-effectiveness; editorials