

## **P903 THE IMPROVEMENT OF SPEECH AND LANGUAGE DEFICITS IN 3 APHASIC STROKE PATIENTS BY HBO THERAPY: A PRELIMINARY STUDY**

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### **INTRODUCTION**

We have previously presented a case history of the effect of HBO in a 3 year post-stroke aphasic patient on auditory comprehension and oral expression subtests of the Boston Diagnostic Aphasic Examination (BDAE) at this meeting. Improvements were observed in following commands and complex ideational material subsections of the auditory comprehension subtest and oral agility, recitation, visual confrontation naming and oral sentence reading subsections of the oral expression subtest. We now report data on the effects of HBO observed in 3 aphasic stroke patients.

### **METHODS**

The patients were treated at 1.5-1.75 ATA for 60-90 minutes for 32-49 treatments. BDAE was administered by an independent speech-language pathologist before and after HBO therapy. All protocols were followed according to the Declaration of Helsinki and the patients signed an informed consent form detailing the treatment and patient rights.

### **RESULTS**

In auditory comprehension HBO increased proficiency levels in following commands and complex ideational materials by 22.0% and 21.7%, respectively. In oral expression HBO slightly increased the proficiency levels in automated sequences 8.3%, repetition of words 6.7%, word reading 7.7%, responsive naming 13.3% and visual confrontation naming 13.0%. HBO moderately increased proficiency levels in nonverbal agility 19.3%, repeating phrases (high probability) 25.0% and oral sentence reading 20%. HBO significantly increased the proficiency levels in verbal agility 29.7%; recitation, singing and rhythm 33.3%; and repeating phrases (low probability) 42.0%. HBO had slight improvements in proficiency levels in understanding written language in general.

### **CONCLUSIONS**

The results of this study shows that HBO therapy improves many aspects of speech and language deficits observed in aphasic stroke patients. Further research is needed to evaluate the preliminary results of HBO effects in this clinical condition.