**Management of Acute Sudden Sensorineural Hearing Loss With Systemic Steroids and Hyperbaric Oxygen: Prospective Study**

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Background:

Acute Sudden Sensorineural Hearing Loss (ASSHL) is a rare otological condition with an incidence of 5 to 20 cases per 100,000 people per year. Treatment for this includes steroid therapy in various forms, vasodilators, aspirin, antivirals, and Hyberbaric Oxygen (HBO). Conclusive evidence for the efficacy of any treatment is lacking, but most would consider steroid treatment as standard. Evidence is hampered by sufficient sample sizes, difficulty with randomisation, and the heterogeneous nature of this presentation.

Methods:

Prospective data has been obtained commencing in August 2014 until present. An extensive education program was instigated with family physicians and audiology clinics to acutely refer patients for treatment. The standard protocol for treatment was immediate commencement of oral steroids, unless contraindicated, and immediate HBO. The standardised treatment is 10 dives at 2 atm, 100% Oxygen. This is followed by salvage intratympanic steroid, if required. Urgent MRI scans were performed on all patients.

Results:

A total of 26 patients were enrolled in treatment. 4 patients were excluded due to lack of data, failure to complete treatment, and neurosyphilis. 2 patients suffered barotrauma during their treatment. Of the 22 eligible patients, 63% had significant improvement in hearing with treatment. Further analysis revealed that patients with labyrinthitis had 0% success. Patients with delayed treatment (> 5days HBO) had 50% success and poor outcome. Of the remaining 12 patients treated for ASSHL, acutely (<5 days HBO), 83.33% had successful return of hearing.

Conclusion:

Acute Sudden Sensorineural Hearing Loss should be considered an otological emergency. Early management with systemic steroids and, if available, Hyperbaric Oxygen should be considered. Delayed treatment and labyrinthitis are poor prognostic factors.