Comparison of three steroid regimes as a first-line treatment for idiopathic sudden sensorineural hearing loss: a Trinidadian perspective.

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Abstract
INTRODUCTION: There is much debate over the efficacy of steroid usage in the treatment of idiopathic sudden sensorineural hearing loss (ISSNHL) and if effective, debate over the best mode of administration. OBJECTIVE: To present a comparison of three routes of steroid administration in the management of ISSNHL. SETTING: A private ENT clinic in Trinidad, West Indies. METHODS & MATERIALS: Retrospective case series. Over an 8-year period, 71 adult patients underwent steroid therapy for ISSNHL: (1) oral steroids (OS) only (n=25); (2) OS + intratympanic steroid (ITS) salvage (n=28); (3) ITS only (n=18). Pre- and post-therapy audiograms were obtained and compared. Of the patients, 66.2% (n=47/71) were diabetic. RESULTS: (1) OS only group: 50% (n=12/25) improved by average 8 dB; (2) OS + ITS salvage group: 46% (n=13/28) improved by average 10 dB; (3) ITS only: 89% (n=16/18) improved by average 15 dB. The use of ITS only was found to be statistically better than OS only (p=0.006) and OS + salvage ITS (p=0.004). CONCLUSION: Based on our data, ITS only therapy is statistically better than OS only or OS with salvage ITS. It may be considered as a first line of therapy in the management of ISSNHL, especially in a population where a high diabetic rate may preclude the use of a systemic alternative.

Discussion
Based on this data, ITS therapy seems to be the treatment of choice in the management of ISSNHL when compared with OS only and OS followed by salvage ITS therapy. In addition, ITS does not seem to have an effect on glycaemic control in diabetics when compared with OS. Finally, though not statistically proven, there seems to be a correlation between the presence of diabetes and the onset of ISSNHL.

With respect to its use as a first-line therapy, Filipo, et al, showed that there was no statistical difference between the use of ITS, OS or both in combination and recommended either as a first-line treatment for ISSNHL. These authors also go on to say that despite their similarity in outcome, ITS alone is recommended in patients with chronic ailments such as hypertension and diabetes. Whilst our data suggests ITS as a first-line therapy above other regimes, we agree with this statement.

Regarding the role of diabetes in ISSNHL, as aforementioned, there is a potential causative link between the both. Amoni, et al, have also found such a link in a case-control study of 141 patients matched for age and sex that on the univariate analysis, diabetes prevalence was higher in the ISSNHL group (15.6%) compared to controls (8.5%) (p=0.03). In addition, Ryu, et al, have found hyperglycaemic to be a negative prognostic factor in the recovery from ISSNHL. This has implications for our population in which diabetes prevalence is high and glycaemic control compliance is relatively low.

Conclusions
ITS may be considered a first-line therapy in the management of ISSNHL, especially in populations where there is a high prevalence of diabetes, primary care management of it is sub-standard and patient compliance with glycaemic control is low.

Table 1. Outcomes of patients undergoing three methods of steroid therapy for idiopathic sudden sensorineural hearing loss.

<table>
<thead>
<tr>
<th>Method</th>
<th>Improvement</th>
<th>Average audiometric improvement</th>
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<tbody>
<tr>
<td>OS</td>
<td>25</td>
<td>50% (12)</td>
</tr>
<tr>
<td>OS + salvage ITS</td>
<td>28</td>
<td>46% (13)</td>
</tr>
<tr>
<td>ITS</td>
<td>18</td>
<td>89% (16)</td>
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