Therapy of idiopathic sudden sensorineural hearing loss: a review of the literature

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Authors' objectives
To evaluate the effectiveness of therapy for idiopathic sudden sensorineural hearing loss (ISSHL).

Searching
The authors do not provide details of the sources searched or the strategies used.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs), controlled studies, retrospective, comparative studies and case studies were included.

Specific interventions included in the review
Optimising cochlear blood supply. The following drugs were used alone or in various combinations: procain, dextran, baxtrobin, betamethasone, pentoxyfillin, novocain, nicotinic acid, recombinant tissue-type plasminogen activator (rt-PA), dyazide, histamine phosphate, dexamethasone, diatriozate meglumine, carbogen, naftidrofuryl, Egb 761, Vitamin B, carbon dioxide + oxygen inhalation, papaverine.

Anti-inflammatory medication: dexamethazone, methyl prednisolone,

Miscellaneous treatment: nimodipin, naftidrofuryl; flunazerine, taprosten, mannitol.

Participants included in the review
People with non-fluctuating sensorineural hearing impairment of unknown aetiology, which occurs within 24 hours and the hearing impairment averages at least 30dB.

Outcomes assessed in the review
The outcome was hearing recovery.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
Comparative study; internal validity (randomisation, double blinding, prospective design); external validity ("generalisation of results is possible by the strict definition of the disease by inclusion and exclusion criteria"). The authors do not state how the papers were assessed for validity, or how many of the authors performed the validity assessment.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
A narrative synthesis was undertaken.
How were differences between studies investigated?
The studies were grouped according to the type of treatment and methodological issues were discussed.

Results of the review
1. Optimising cochlear blood flow: 5 RCTs (488 participants), 1 other controlled study (162), 3 retrospective comparative studies (321 participants), 2 before-and-after studies (92 participants), 1 case study (4 participants).

2. Anti-inflammatory medication: 1 RCT (36 participants), 1 controlled study (119 participants).

3. Miscellaneous treatment: 2 RCTs (62 participants), 1 controlled study (104 participants).

1. Optimising cochlear blood flow: Of the 5 RCTs, none found optimising cochlear flow effective in improving hearing. One controlled study found batroxobin superior to betamethasone.

2. Anti-inflammatory medication: Dexamethazone was found significantly superior to placebo in one randomised controlled trial and Dexamethazone and methylprednisolone were statistically superior to placebo in a controlled trial.

3. None of the miscellaneous treatments were demonstrated to have beneficial effects.

Authors’ conclusions
No truly successful treatment modality in ISSHL exists. Application of steroids has a modest beneficial effect on hearing recovery.

CRD commentary
This review does not report a search strategy so it is not possible to ascertain how comprehensive the review has been. There is little or no assessment of the validity of the included studies - only a restriction by design (RCTs) which is not consistently applied. Some studies are discussed which do not meet the inclusion criteria of the review. In addition, no details are given about decision procedures or data-extraction. Consequently, any sources of bias in the review process cannot be assessed.

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**Record Status**
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.