

Current Canadian Clinical Concepts

This study is investigating the possible relationship between the repeated occurrence of otitis media and language development in preschool children. About 63 children, 3-6 to 5-6 years, identified by their pediatricians as having recurring otitis media, were evaluated two or three times at one month intervals at the Audiology Clinic, Montreal Children's Hospital. The audiological evaluation consisted of pure tone, SRT and impedance measures. Subjects in the experimental group had to have an average hearing loss of 15 to 35 dB in the better ear, and/or an abnormal tympanogram on two of the tests. There were thirteen subjects in the experimental and control groups, pair-matched for age, sex, socio-economic status, and English speaking factors. Each group was given a battery of language tests. On all the language measures, the scores of the experimental group were significantly different from the control group. Reasons for these differences are discussed.

Comments, suggestions and contributed articles should be sent to the Co-ordinator:

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LANGUAGE DEVELOPMENT IN CHILDREN WITH MILD CONDUCTIVE HEARING LOSSES

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Program Description

The study underway at the Montreal Children's Hospital, in the Psychology and Audiology Departments is investigating the association between the repeated occurrence of otitis media and the development of speech and language in preschool children. The study began with an audiological screening of those children who had been identified by local pediatricians as having had recurrent otitis media. The children who were between the ages of 3-6 to 5-6 years came from the private practice of the referring pediatricians. A total of 63 children went through the audiological screening. They were evaluated two (2) or three (3) times at one month intervals. The audiological criteria for inclusion

as a subject were an average hearing loss of between 15 to 35 dB in the better ear, and/or an abnormal tympanogram on two (2) of the three (3) tests. In addition, the children had to have a history of recurrent otitis media, and an absence of medical or developmental problems.

The children in the experimental group were pair-matched with controls located through the local nursery schools. They were matched on the following criteria: age (within 6 months), sex, socio-economic status, and language of schooling. To be included in the project, English had to be the first language spoken in the home.

All the children referred for the project were given an audiological

examination. There were two (2) or three (3) assessments at one month intervals. Each assessment consisted of pure tone, SRT, and impedance measures. The criteria for mild hearing loss was an average of between 15 to 35 dB loss in the better ear, and/or impedance measures of at least -300 mm.

To be included in the experimental group the subject had to meet these criteria on two (2) out of three (3) examinations, done at one month intervals.

Thirteen subjects met the criteria and these became the experimental group. They were then seen by a speech pathologist for a language evaluation. The assessment battery included the Test for Auditory Comprehension of Language, (Carrow), the Northwestern Syntax Screening Test, a spontaneous language sample which was later transcribed and analysed using the Developmental Sentence Scoring, (Lee), and an evaluation of phonological development. This procedure is being repeated one year later for a comparative measure of growth. A similar language assessment was completed on the control group as well.

Results:

On all the language measures, the scores of the experimental group were significantly different from their controls. However, although these differences did exist, the children in the experimental group did not present as severely language delayed. The language of the experimental group, when looking at norm based scores, appeared to be relatively age related. On receptive measures especially, the children in the experimental group tended to be at or above age level. The differences became more apparent in the expressive language skills, especially when compared to their matched controls.

There appeared to be interesting differences in the spontaneous language of the two (2) groups. These differences became evident from an internal grammatical

analysis of the information from the Developmental Sentence Scoring, (DSS). The first place where these differences appeared was in the number and kind of syntactical errors demonstrated by each group of subjects. Quantitatively there was virtually no difference between the number of errors made by the two (2) groups. However, when looking at the sentences in which the errors occurred, there are evident differences. The experimental group made most of their errors in simply constructed sentences, often with little elaboration of the subject-verb-object type of construction. Looking at the pattern of errors of the control children, the sentences in which there were noted errors had more complex and advanced grammatical structures. They were, as a group attempting to use more complex structures in each of the eight (8) grammatical categories of the DSS.

The experimental children had almost four times as many phonological errors as the controls. However, both groups of children are very young, and at the age where phonological patterns are just emerging. Therefore, although the relationship between early onset of otitis media and delays in phonology has been reported in the literature, one can only speculate as to a possible link between the two.

Conclusions:

Although the relationship between early recurrent otitis media and a delay in speech and language remains unclear, the results reported suggest an association between the two. From the findings one may speculate that although the amount, (in decibels) of the hearing loss is relatively small, and the hearing loss itself is intermittent, the changes in hearing, over time, especially in the first few years of life, may cause difficulties in the learning of the speech sounds, and/or in the development of language. The outcome of this delay is unknown; it remains to be seen whether in fact these children "catch up", and whether the delay in the preschool years has any ramifications in the later academic performances of these children.

It appears, that based on the association found in the literature between otitis media and speech and language development, in addition to the findings reported in this study, additional investigations into this problem are warranted in order to further define and more fully understand the specific nature of the speech and/or language disabilities which may exist in some children as a result of intermittent, mild, hearing losses.

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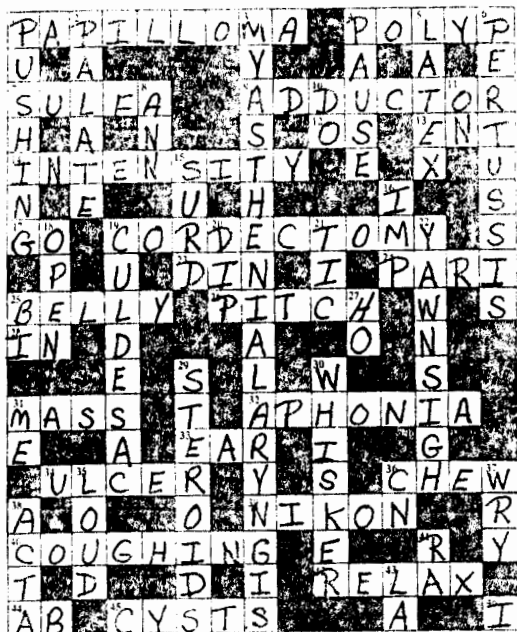
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HEAR HERE

Crossword Puzzle — Answer — Voice Disorders

Puzzle No. 1



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