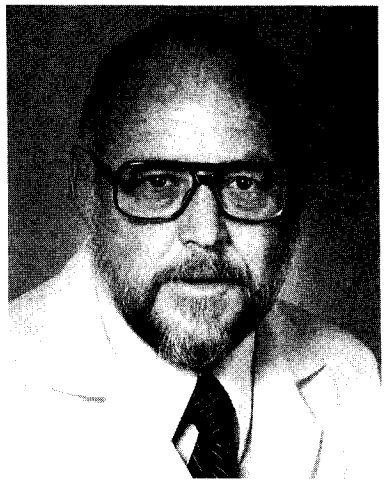
Editorial

Chronic Otitis Media and Speech Understanding



We have seen, over the past decade, a growing body of evidence that the presence of chronic otitis media (COM), during the critical period for language learning in early childhood, can produce significant deprivation effects impacting the normal acquisition of speech and language. In this issue of JAAA, the reality of such an effect, as it impacts speech understanding, is dramatically illustrated in a case report on identical twins. Denice Brown reports speech audiometric findings on a pair of 4-year-old girls, only one of whom suffered recurrent episodes of COM. Using the Pediatric Speech Intelligibility (PSI) test, Brown measured word and sentence recognition both with and without competing speech in the background. Results showed that both twins scored perfectly on word and on sentence recognition when there was no background competition. In the presence of such competition, however, there was a substantial performance difference. The twin without COM history showed only minimal effects from the competition, but the twin with a history of recurrent COM showed striking performance deficits, especially for word recognition. On this child's left ear, for example, maximum word recognition fell from 100 percent without competition to only 50 percent with competition.

The fact that the effect could be demonstrated in identical twins is particularly elegant. Ordinarily, in this genre of research, the variables of age, race, gender, intellectual endowment, socioeconomic level, educational experience, and a host of additional environmental factors are difficult to hold under experimental control. In the case of relatively young identical twins, however, such variables should not present a serious problem. Hence observed differences in speech understanding can reasonably be attributed to the disparate COM histories.

Another important principle illustrated by this interesting case report is the value of relative as opposed to absolute measures of speech understanding. If Brown had only measured speech understanding in one condition, as is so often the case in this type of study, the reality of the intertwin difference might still be suspect; but, by measuring performance for both words and sentences, with and without background speech competition and over a range of speech intensity levels, Brown provides us with a series of crosschecks on the validity of the apparent deprivation effect.

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