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IMPAIRED HEARING IN CHILDREN

A Review of 227 Patients

J. LEWIS DILL, M.D.

A TOTAL OF 227 children under 14 years of age were examined over a four month period for a possible loss of hearing. This group consisted of 34 children who were found to have normal hearing; 96 children with a conductive hearing loss; 93 children whose hearing loss was of the perceptive or nerve type, and 4 children whose loss was a combined nerve and conductive type. The youngest child was under one year of age, and no child had reached the fourteenth birthday. There were 67 children under five years of age; 125 children between the ages of five and ten years; 35 children over ten years of age.

There are certain factors in this group, which are perhaps worthy of note: (1) There were approximately the same number with a nerve type as with conductive loss, 41 per cent of the group had a nerve loss and 42 per cent showed a conductive loss. (2) In the group of children with a nerve type of hearing-loss, more than twice the number of children (67 had a congenital loss, compared to 26 children who had an acquired nerve loss. (3) In this whole group 55 per cent of the children were seen between 5 and 10 years of age, compared to 50 per cent of the group with a congenital nerve loss seen under five years of age. (4) In the group of 34 children with normal hearing were ten normal children, suspected of having some hearing impairment, and 24 children who had other problems such as speech defects, mental retardation, psychological or behavioral manifestations.

An evaluation of a hearing loss with its many and varied causes permits of no omission; a complete history, and a careful examination of the ears, nose, sinuses, pharynx and nasopharynx are a necessity. Too, a reliable test of hearing must be done, a test whose results can be duplicated on a retest. It is indeed necessary to do pure tone and speech audiometry on children, and the test for pure tones verified with tuning forks. The young child unable to cooperate responds well when tested with musical toys of various pitches, and a fairly reliable test can usually be recorded. The occasional child who fails to respond, can be conditioned and responses obtained using the psycho-skin-galvanometer.

The conductive type of hearing loss usually responds to therapy, and usually quite rapidly following the removal or treatment of the causative pathology. In the group of 96 children there were 12 children who failed to follow advice or therapy, and did not return for a recheck. This group contained also three children whose pathological condition did not warrant treatment; one child with otosclerosis; one child with a unilateral ear deformity, who had normal hearing in the other ear,

and one child with a mild conductive loss who was a real psychological problem. Of the 81 children who completed their therapy, an improvement of hearing was noted in every child. A return of hearing to normal was noted in 36 children, and 45 children had a definite improvement, but their hearing did not reach the ten decibel level.

In this group of 81 patients with a conductive hearing loss we noted many pathological conditions which were corrected. The tonsils and adenoids were removed in 38 patients; adenoids alone were removed in 32 children; secretory otitis was present in 26 patients; allergic rhinitis often accompanied by a subacute or chronic sinusitis was diagnosed in 34 children; chronic otitis media was found in seven children, four of these children has a unilateral otitis media, and three had bilateral otitis media. In children with secretory otitis the fluid was removed from the middle ear when indicated, adenoids removed if necessary and allergic therapy given if an allergic rhinitis was present. All children with an allergic rhinitic were given a trial treatment of antihistamines and a diet was prescribed when food allergy was suspected. A tympanoplasty was performed in all cases of chronic otitis media.

Pathological conditions which were felt to be responsible for the conductive hearing loss were more often multiple than single. Chronic adenoiditis or chronic tonsillitis and adenoiditis were often found with an allergic rhinitis; enlarged adenoids and allergy were frequently associated with a secretory otitis. Sinus infection, chronic tonsillitis, adenoiditis, and allergic rhinitis were frequently encountered in children with a chronic otitis media. The milder the degree of a hearing loss and the shorter the duration of this loss, the more rapidly was the hearing restored to normal. The children whose hearing loss was great and of long duration most often had a combination of pathological conditions, all of which required elimination. The return of hearing in these children was slow, frequently improved to a marked degree, but with less expectation of obtaining normal hearing; yet many of these children developed a recovery of hearing beyond our expectations.

The child with a nerve deafness, congenital or acquired, can expect no improvement of hearing by any means at our command, medical and surgical therapy included. This is the opposite of what is expected in a conductive hearing loss, and may seem to present a hopeless outlook to the physician, and parent and the child. These children too require a careful survey, a diagnosis and specific advice. What we lack in specific therapy must be compensated for with intelligent advice to the parent regarding their potentially handicapped child. We can easily instruct the parent and counsel them in regard to early education, special auditory training, preferential seating and, when indicated, the use of a properly fitted hearing aid. The intelligence of the parent in the care of this child, the utilization of educational facilities and aids will materially facilitate the required adjustment and the development of their child educationally, socially and emotionally.

In our clinic we have the belief that all children with impaired hearing can be helped, and the time spent on diagnosis and therapy is time spent both well and rewardingly. The child with a conductive hearing loss can obtain a definite improvement of hearing, and very frequently the hearing can be restored to the normal level. The child with a nerve loss can expect no hearing improvement, but can be taught to utilize their remaining hearing with profit to themselves and the community.