Medical Aspects of Hearing Loss and Its Surgical Treatment

BY

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The time-honoured classification of deafness or hearing loss into conductive and nerve types has not only the advantage of understanding the working of a damaged ear but also has the advantage of predicting the future course of the disease. Conductive deafness, especially its early stages can often be arrested, improved or circumvented. Nerve deafness, which implies degeneration of delicate but essential elements of the sense organ or nerve can rarely be improved by medical treatment. This type of deafness is also less favourable than conduction deafness for the satisfactory use of a hearing aid.

Conduction deafness may be caused by plugging the external auditory meatus, by damping the free movement of the drum or restricting the movements of the ossicles. Any of these will reduce the intensity of the air-borne sound that finally reaches the internal ear.

Conduction deafness is not much of a handicap to hearing in a noisy place. The loud speech of the speaker overrides a moderate conduction deafness and this ability to hear in noisy places as well as or better than normal persons (Paracusis Willisi) is characteristic of conduction deafness.
Nerve deafness is caused by a degeneration of the sensory cells in the inner ear and the hearing loss is usually uneven. Those who are afflicted with it hear some tones well, some poorly and some not at all. High tones are the ones most likely to be lost.

It is a curious fact that although the nerve deaf may not be able to hear the high tones at all when the tones are faint, they are able to hear the really powerful high tones just as loudly as any one else. The transition from hearing little or nothing to hearing very well is abrupt. With nerve deafness the range of comfortable hearing between the inaudible and the too loud, the tone in which we like to listen is greatly narrowed. This effect of abnormally rapid increase in loudness is known as recruitment and it may be very annoying. Recruitment is the condition where faint or moderate sounds cannot be heard, while at the same time there is little or no loss in the sense of loudness of loud sounds. It explains why old people whose deafness is usually a gradual high tone nerve type, complain one moment that they cannot hear a speaker and the next moment, when he raises his voice, that he is shouting too loudly at them. Recruitment, then showing itself as a normal hearing of, and intolerance for, loud sounds, is a distinguishing feature of nerve deafness. Recruitment is one of the reasons why tolerance for a hearing aid is harder to acquire when the deafness is of the nerve type.

The important causes of conduction deafness are:

(1) Inadequate treatment of infection of the middle ear and inadequate attention to normal function of the Eustachian tube.

(2) Otosclerosis.

Medical Treatment of the Middle Ear Diseases.—Inflammation of the middle ear is the commonest cause of conduction deafness. In acute otitis media without exudation, general treatment with antibiotics and chemotherapy combined with inflation, once the acute condition subsides, and attention to the source of infection