

A DIAGNOSTIC SIGN IN PROGRESSIVE DEAFNESS.

DR. JESSE WRIGHT DOWNEY, Baltimore, Md.

The term progressive deafness is here used in its symptomatic sense rather than to define a pathologic entity, and is, therefore, intended to apply to all cases of increasing deafness in which the predominant lesion is apparently within the conduction apparatus, but for which little or no cause, either local or general, can be clearly established.

Though all such cases may be loosely classified as oto-sclerotic in character, very few present the complete symptom-complex of oto-sclerosis and each must necessarily exhibit individual variations of type; it is, therefore, often difficult to reach a conclusive diagnosis on which a justifiable prognosis can be based.

In the author's practice the following simple procedure and its resulting reaction has seemed both of diagnostic and prognostic value in a creditable number of patients treated for what may be clinically designated, progressive deafness.

The electrically lighted otoscope, with the massage bulb attached and held collapsed, is introduced snugly into the external auditory canal and so adjusted that the flaccid membrane and the handle of the malleous can be plainly seen. The bulb of the instrument is now allowed to fill with air, the drumhead being kept under careful observation as the suction is exerted upon it.

1. If there follows an immediate filling up of the vessels, so that a network of small arteries can be easily traced in the superior-posterior canal wall, in the flaccid membrane and along the posterior border of the malleous handle, and if this hyperemia can be markedly increased by a few seconds of gentle massage, we are probably dealing with a pathologic process in which there has been little or no permanent circulatory disturbance. Inflation, followed by gentle massage, is beneficial in these cases.

2. If *no* hyperemia can be produced by negative pressure or by a few seconds of massage, the disease present is in all likelihood a true oto-sclerosis with beginning anklosis of the stapedia articulation, spongification within the labyrinthine capsule, and actual arterial changes probably of a sclerotic nature. Massage in these cases is *not* beneficial and may prove harmful.

The diagnostic value of these observations is, of course, mainly corroborative, the prognostic possibilities seem of greater usefulness. If no tympanic congestion can be produced, the hearing and vestibular tests will, as a rule, show that there is a reduction both in the cochlea and static function. If hyperemia can be produced, slight improvement in hearing may be attained by judicious treatment though a mild labyrinthine involvement is demonstrable.

One is hardly at liberty in this era of medicine to present clinical observations without confirmatory pathological reports. There is a sufficient anatomical basis, however, for the assumption that changes in the external arteries of the tympanic membrane are significant of similar changes in vessels of both the tympanum and the labyrinth as a free anastomoses between these vascular networks has long ago been demonstrated. Vascular changes, of one kind or another, have been noted in many pathologic reports concerning the findings in oto-sclerosis. Mayer lays stress on the sclerotic changes in the arteries.

In conclusion I wish to call particular attention to an article by Dr. B. Alexander Randall, "The More Efficient Method of Aural Massage" (*Annals of Otology, Rhinology and Laryngology*, September, 1911). Assuming that every effort has been made to determine the etiology and to eradicate every contributory cause, in my opinion, no more logical local method of treatment for progressive deafness has been advised than that laid down by Randall in the paper mentioned.

Charles and Centre Streets.