Diseases of the Ears, Nose, and Throat

A Guide to Diagnosis and Management

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Preface

Various surveys have revealed that a substantial portion of the primary care physician's practice is concerned with diseases and disorders of the ears, nose, and throat (ENT). Despite the involvement of this large segment of the medical profession in the treatment of patients with ENT complaints, to our knowledge, there is no book devoted to this subject that has been written specifically for these physicians. The purpose of this book is to fill that void.

The emphasis is on the differential diagnosis of the ENT symptoms. The history, the physical examination, and the practical management of the problem are overriding concerns. This is a radical departure from the usual medical text format, but physicians find the office patient a radical departure from the medical text. The book is designed to facilitate the recall of possible causes of an initial symptom and the arrival at the correct diagnosis. The book is completely clinically oriented. Anatomy, embryology, and physiology are not discussed in any detail, since this information is readily available in standard ENT textbooks. References have been kept to a minimum and are only included when it seemed possible that the reader might wish to obtain additional information on a subject.

It is our sincere hope that the purpose in writing this book has been achieved and that the primary care physician will find it valuable in the management of this important part of his practice.

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PART I

Diseases and Disorders of the Ears

D. Thane R. Cody

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Examination of the Ear

THE EAR is a complex organ whose important functional components, the hearing apparatus and balance mechanism, are located in the temporal bone of the skull. A considerable portion of the ear is not accessible to direct examination and can only be evaluated by special tests. The ear can be divided into three parts: the external ear, the middle ear, and the internal ear (Fig 1–1). The external ear comprises the auricle and the external auditory canal. The middle ear includes the tympanic membrane, ossicular chain (malleus, incus, and stapes), and the middle ear space. In addition, the middle ear communicates with the attic (epitympanum), mastoid process, and Eustachian tube, and the area that is occupied by all of these structures is referred to as the middle ear cleft. The internal ear comprises the cochlea, vestibular labyrinth with the horizontal, superior, and posterior semicircular canals, the utricle and the saccule, and the acoustic nerve (eighth cranial nerve) with the auditory or cochlear nerve and the vestibular nerve with its superior and inferior divisions.

The complexity of otologic diseases and disorders is magnified by the ear's intimate relationship to the brain occupying the middle and posterior cranial fossa, the internal carotid artery, the sigmoid sinus, the jugular bulb, and cranial nerves V, VI, VII, IX, X, XI, and XII. The ear cannot be analyzed independent of these important structures or of the nose and pharynx.

The History

Just as in any other area of medicine, in evaluating a patient with an ear complaint, an accurate and detailed history is mandatory. The symptoms that patients ascribe to an ear disorder are dizziness, hearing loss, earache (ear pain, otalgia), drainage from the ear (otorrhea), noises in the ear (tinnitus), a plugged sensation or a sensation of pressure or fullness in the ear, and itching (pruritus) in the ear. In addition, peripheral facial nerve paralysis usually is caused by a disorder

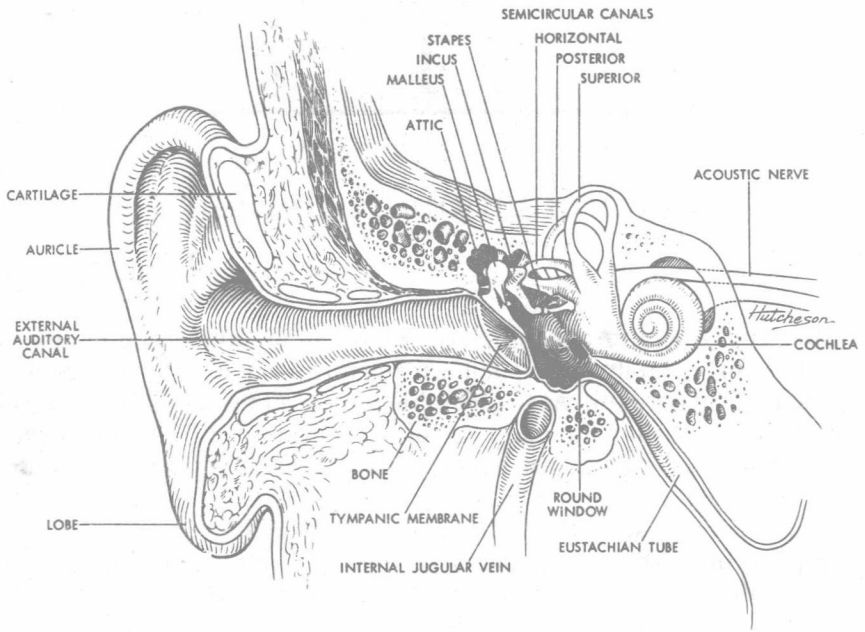


Fig 1–1.—Anatomy of ear.

in the temporal bone. Important features in history taking in the differential diagnosis of these symptoms will be covered in subsequent chapters.

The Examination

The extent of the examination of the patient with an aural symptom or symptoms will vary tremendously according to the specific complaint. For example, if the patient complains of itching in the ears, an otoscopic examination may be all that is necessary. On the other hand, if the patient complains of dizziness and hearing loss, a complete ear, nose, and throat examination, evaluation of the function of the cranial nerves and cerebellum, and a number of special tests are required.

INSPECTION AND PALPATION OF THE EAR

The auricle, usually only the orifice of the external auditory canal, and the mastoid process are accessible to gross inspection and palpation. It is important to remember that, with the exception of the lobe, the auricle is composed of cartilage. This fact will allow the physician

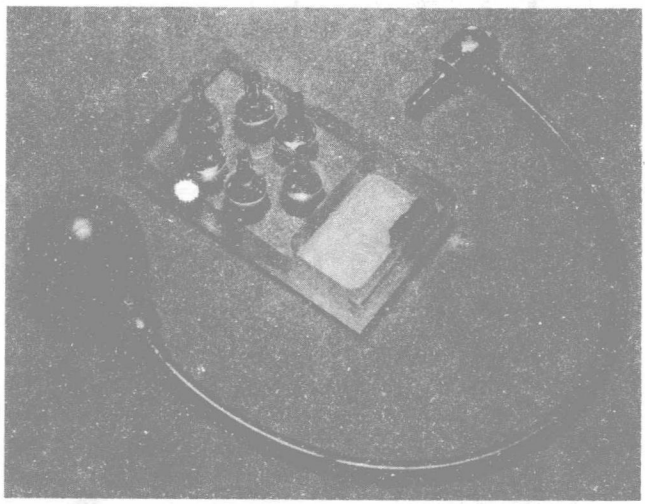
to differentiate between cellulitis of the auricle (p. 121) and auricular chondritis due to relapsing polychondritis (p. 118), both of which cause auricular swelling, redness, tenderness, and pain. With cellulitis the entire auricle will be involved, whereas with relapsing polychondritis the lobe will be unaffected. The correct diagnosis is extremely important, since the treatments of these conditions are entirely different.

At times, simple manipulations of the auricle can be of aid in the differential diagnosis. If gently pulling on the auricle or pressing the tragus inward causes pain in a patient complaining of earache, he probably has an external otitis. Ordinarily, these movements of the auricle do not cause discomfort if the patient has an otitis media.

If a patient with earache and otorrhea has tenderness over the mastoid process, a mastoiditis is usually indicated. Redness and swelling in addition to the tenderness make the diagnosis a certainty.

Routine inspection of the external auditory canal and tympanic membrane can be accomplished either with an otoscope or with a head mirror and ear speculum. The head mirror provides better illumination and greater flexibility than the otoscope in performing manipulations in the ear, and it is well worth the primary care physician's time to become adept in its use. Of course, the head mirror is also necessary for indirect examination of the pharynx and larynx. Inspection of the ear is facilitated by gently pulling upward and backward on the auricle to straighten the ear canal. During inspection of the external

Fig 1–2. – Pneumatic otoscope.



auditory canal, one should be looking for dryness and scaling, foreign bodies, inflammation, ulcers, lacerations, and tumors. The tympanic membrane should be examined for translucency, a light reflex, scarring, discoloration, a fluid level, bulging, retraction, and perforation.

The pneumatic otoscope (Fig 1–2) is an extremely useful tool. It provides a little magnification (1.5 times) and the capability of applying positive and negative pressure to the tympanic membrane to assess the mobility of the tympanic membrane and the malleus and to perform the fistula test. The physician should routinely use the pneumatic otoscope until he is familiar with the normal mobility of the tympanic membrane and the malleus.

To facilitate inspection and certain manipulations in the ear, an operating microscope can be used. It is helpful in determining whether there is an ossicular chain defect or a tumor in the middle ear. Most large hospitals will have one, and the primary care physician can arrange to examine his patient with it if that procedure seems indicated.

Fig 1–3.—Ear curettes (*top left*), cotton-tipped applicators (*top center*), ear (Lillie) hook (*top right*), alligator forceps (*bottom left*), and no. 5 French suction tip (*bottom right*).