

THE MODERN THERAPY OF SUPPURATIVE OTITIS MEDIA.

BY M. A. GOLDSTEIN, M.D., ST. LOUIS.

In the consideration of a purulent discharge from the middle-ear cavity, two systems of treatment have long contended for supremacy; one the so-called "dry treatment,"—the other the irrigation and syringing of the affected parts with various antiseptic solutions.

Each method of treatment has its advantages and disadvantages, and in their application the pathological status of the involved area, the character of the discharge and the size of the perforation in the membrana tympani should all be taken as factors in deciding which system to employ.

Where the discharge is copious and the pus thick and ropy, the application of the syringe with a gentle current of a mild, warm antiseptic fluid is advocated to clear the canal to the surface of the membrana tympani. In but few conditions of purulent otitis, however, have I found the use of fluids injected into the external canal for the purpose of clearing it of pus as satisfactory as the similar method of dry cleansing.

The technique in surgery which has found general favor of late is the "dry dressing." Its advocates and enthusiasts claim for it a more rapid healing and repair, a more natural covering and less irritation of the injured surface and less danger from infection of the surrounding areas. The wet dressing always produces a sodden and infiltrated surface, and as this in the ear is generally applied to a mucous membrane, it frequently unintentionally produces the very condition which it is our purpose to subdue.

In the therapy of middle-ear suppuration we aim to remove pus and other fluids from the infected cavity, and this purpose is certainly thwarted by the liberal use of the syringe and other forms of irrigating the auditory canal and middle ear. The small tuft of sterilized cotton on the tip of the probe or cotton carrier, gently applied as a mop to absorb the mucous or purulent excretions from the ear will, in the majority of cases, cleanse the canal to the tympanic cavity, if need be, more effectively than will a large current of antiseptic fluid. Where a large perforation of the membrana tympani exists, as is usual in the majority of cases of chronic suppurative otitis media, there is an additional danger in the free use of the

syringe of forcing some of the fluid into contact with the remote and healthy areas of the tympanic cavity, and thus carrying some of the purulent discharge and fresh infection to another point. It may, perhaps, not be unreasonable to conjecture that frequent mastoid infection has resulted from the freedom with which the otologist handles the syringe in the treatment of suppurative otitis media.

A factor of great value in the consideration of the "dry treatment" is its efficiency in preventing infiltration and softening of the mucous membrane of the tympanic cavity, a condition which is invariably produced by repeated applications of watery solutions to a pathologic mucous membrane.

The mucous membrane of the tympanic cavity during a suppurative otitis is constantly bathed by the purulent secretion resulting in this sodden condition of the membrane, and this is only accentuated by the further addition of aqueous medications. It is this very stimulation and irritation of the mucous membrane by the fluids with which it is pathologically brought in contact, that causes granulation and polypus formation.

In the application of the dry system of treatment I have frequently noted that the tendency to the formation of granulation tissue has been reduced to a minimum.

In emphasizing this form of dry dressing, I have taken into consideration only the simple forms of suppurative otitis media. Of course, where a suppuration of long standing has resulted in necrosis, a considerable destruction of the soft tissues of the middle-ear cavity or involvement of the mastoid area, more radical therapeutic and especially surgical measures must be adopted.

In cleansing the purulent discharge from the middle ear I first mop the canal as thoroughly and as clean as possible. If but a small perforation exists and the cotton tuft cannot find its way into the tympanic cavity, there is always a possibility of retention of the purulent matter, and a tendency to chronic suppuration. Where no pain or discomfort exists I frequently use the Eustachian catheter in conjunction with a Globe nebulizer with iodine, 3 grs., carbolic acid, 4 grs., and benzoinol, 1 oz., and by steady inflation frequently succeed in forcing the residue of the purulent secretion through the small orifice of the membrana tympani into the auditory canal. This has a two-fold advantage of forcibly ejecting the purulent contents of the middle-ear cavity and also of applying an antiseptic to the delicate mucous membrane without the ill effect of infiltration of same.

As an additional means of evacuating the contents of the tympanic cavity, especially where but little congestion is apparent, I occasionally apply a Siegle speculum and by suction draw the muco-purulent fluid even through a small perforation. The more promptly the tympanic cavity is evacuated of infecting fluids and the greater care exercised in the minute cleansing of the parts, the more speedily will a cure be obtained.

After each cleansing a non-irritating but efficient impalpable antiseptic powder should be insufflated in the auditory canal. For many years boracic acid has been the panacea for nearly all the ills the ear is heir to. Boracic acid, however, is but a mild antiseptic at best, and in the experience of every worker it has been frequently found inert and impotent. Next in importance to boracic acid, iodoform has long held rank as a dry dressing in aural surgery. Its objectionable odor to both the operator and patient and its stimulation of granulation tissues when in contact with mucous surfaces detracts from its value as a powder dressing.

As otologists, we are constantly on the alert for an antiseptic in powder form, available as a dressing in suppurative and inflammatory conditions of the middle ear, more potent than boracic acid and less disagreeable and less irritating when in constant contact with these tissues than iodoform, exhibiting no tendency to cake or clog in the auditory canal and offering but a minimum of toxic absorption.

When nosophen was brought to the notice of the profession as a superior antiseptic and as a dressing fulfilling the majority of the requirements of the ideal powder in otology, I did not hesitate to give it a thorough trial, and in the use of this preparation in this class of cases during the past year I am pleased to say that the results have been thoroughly satisfactory, and that in both private and clinical work I have substituted nosophen for boracic acid.

Where large perforations of the membrana tympani exist in conjunction with suppurative otitis, I have successfully used the dry gauze tampon, as advocated by Dr. Alice Ewing.* The gauze is lightly introduced, filling the external auditory canal, its distal end producing mild pressure on the mucous surface of the tympanic cavity. This dressing is renewed as frequently as the profusion of the purulent discharge demands.

The gauze may be either the plain sterilized or the nosophen gauze which works admirably in conjunction with the nosophen powder dressing. The double cyanide gauze, still the favorite with English surgeons, has also been satisfactorily used in this manner.

* Gauze Packing for Suppurating Ears; *The Laryngoscope*, Vol. IV, No. 6, p. 357.

The only fluid medications which I have used liberally and freely in the treatment of suppurative otitis media are the saturated solution of boracic acid in absolute alcohol and hydrozone. The boracic acid alcohol offers a satisfactory means of reducing small granulations occurring in the course of chronic middle-ear suppuration. Hydrozone is a superior and concentrated product of peroxide of hydrogen, which is of inestimable value in seeking out small pus pockets which are not within reach of the mop or syringe. In the application of both the alcohol and hydrozone I use the medicine dropper in preference to the syringe, and where it is intended that the fluid should penetrate the tympanic cavity, the desired point may be reached by shifting the head of the patient.

In conclusion I desire to emphasize the necessity of careful cleansing and thorough antiseptics of the naso-pharynx in the treatment of suppurative otitis media.

Endo-Cranial Complications of Purulent Otitis Media—GRADENIGO—*Revue Int. de Rhin., Etc.*, July, 1898.

A rapid diagnosis in these cases is the principal element of success. The following symptoms demand special attention: optic neuritis, cephalgia, slowing of pulse, rigidity of neck, difficulty of deglutition, vertigo and nausea, and fever. The patellar and superficial reflexes are usually diminished in meningitis and exaggerated in cerebral abscess.

SCHEPPEGRELL.

Threadworms in the Ear—KOEDEL, Stuttgart—*Am. Med. Surg. Bulletin*, October 10, 1898.

A young female child, one and one-fourth years old, after a violent attack of retching, choking and sneezing, passed a threadworm more than a finger in length, the worm making its appearance at the external auditory canal. The child had suffered for five days from a suppurative otitis media as a sequel to an attack of pneumonia. The worm must have passed through a perforation in the membrana tympani to appear in the external auditory meatus. Before the worm appeared the child had severe colic. In eight days the drum had healed.

LEDERMAN.