

much better than the acid with water. His method of application is to cleanse the ear thoroughly by cotton or a probe, avoiding syringing unless it is absolutely necessary, and then, dipping a tampon of cotton in the solution to apply it to the secreting surface and there leave it till the next day, when the same process should be repeated. In this way he has succeeded in relieving obstinate otorrhœas even when complicated by small granulations.

Politzer \* gives a résumé of his experience in the use of caustic solutions of nitrate of silver in the treatment of otorrhœa, as recommended by Schwartz. He had already found concentrated solutions of nitrate of silver useful in the destruction of granulations in the external meatus and on the drum-membrane, but weak solutions he found of comparatively little value in simple chronic suppuration. Stimulated, however, by Schwartz's publications of 1868 with regard to the caustic treatment of purulent aural catarrh, in which solutions of twenty grains of the salt to an ounce of water were used, he was led to try this in simple, uncomplicated otorrhœa, and now advises the use of even stronger solutions than those of Schwartz, namely, one part of the salt to ten or eight of water. Great stress is laid, however, on the method of application, and it is probable in practice that failures often result from the want of attention to these minutiae and from the lack of personal attention on the part of the physician. Above all it is important that all secretion be removed from the middle ear by inflation, either with the Politzer-bag or by the catheter, and that then the meatus be thoroughly syringed out; this being done, the meatus must be carefully dried by pledgets of lint or cotton, in order that the solution may come in contact with the diseased mucous membrane. Any secretion left in the ear will unite with the silver to form an albuminate of silver.

For cauterizing the middle ear ten to fifteen drops of the solution should be poured into the ear with the head inclined to the opposite side; if the drum-membrane is largely destroyed, the solution readily finds its way into the tympanum; if, however, there is but a small perforation, it is necessary to inflate the tympanum or else to force the solution into the cavity by pressing the tragus down against the meatus. The only unpleasant results met with in these applications were smarting in the pharynx when the solution ran down the Eustachian tube, and a dizziness produced by the pressure on the labyrinth: the former passes off in a few hours, and the latter is relieved by inflation of the tympanum.

It is necessary that the solution should remain in the ear long enough to produce a decided slough of the membrane, and for this purpose one to two minutes is sufficient. A less time than that merely produces a grayish sediment

from the union of the silver with the epithelium and mucus, and this comes away in a few hours at the longest, while an effectual slough does not come away for twenty-four hours or even longer. The superfluous solution, after producing the slough, should be syringed out. Neutralization by means of a solution of salt, as advised by Schwartz, is not considered necessary by Politzer. The action of these concentrated silver solutions in checking the discharge is less dependent on the duration of the disease than on the condition of the mucous membrane and the general health, and it is also more certain where there are no granulations, although Politzer has seen such granulations disappear very rapidly under this treatment.

Schwartz's claims that a nearly certain cure followed the use of the caustic applications where the otorrhœa was uncomplicated are not confirmed by Politzer, but in cases where it was used and failed to check the discharge he has afterwards frequently obtained a good result from the insufflation of pulverized alum in minute quantities, and he considers the combined use of the concentrated silver solution and the powdered alum as the most effectual method of treating chronic suppuration of the middle ear. He recommends that, if after eight or ten applications of the caustic, the secretion does not diminish, the alum be used.

The same care should be used in applying the powder as the silver; the ear should be thoroughly cleansed and dried and the powder blown in in small quantities against the secreting surface, the physician satisfying himself by inspection that the surface is covered white. If the secretion is not profuse, the powder will remain in the ear at least two days, and if on the third day the powder still remains dry and in position, it is recommended not to syringe the ear, but to allow the powder to chip off of itself. If, however, the powder has become moist, the ear must be thoroughly syringed to free it from the masses of alum and secretion which occasionally adhere so firmly as to require also some careful manipulation with the probe for their removal. As experience teaches that, frequently, by the day after the syringing the secretion has ceased entirely, it is advisable not to make the next application till satisfied by waiting that the discharge still continues.

#### CALOMEL.

Dr. Duckworth, in *Practitioner*, says: "I am satisfied that in many minor disorders of children nothing can take the place of calomel as a purgative, and much time is often lost by beginning with drugs that are accounted more simple. The only medicine that appears to me to approach calomel in value is castor oil; but this is constantly a source of trouble from its disgusting character. I find that calomel is distinctly preferable to gray powder as a purgative, just as for

\* Archiv für Ohrenheilkunde, ii. 1.