

tinued until 54 parts, or 3 molecules of water, are driven off. The boroglyceride "on cooling is an amber colored vitreous mass, which is very friable and easily broken. It is readily soluble in glycerine, but less so in hot or cold water (about 10 per cent)." "It has an acid, pungent taste, and an astringent effect when applied to mucous membranes."

This new substance or compound is an antiseptic, and if we mistake not is determined to play an important rôle in the antiseptic surgery of the near future.

I believe it was the great author of antiseptics, Prof. Lister himself, who first suggested that suppurative diseases of the middle ear should be treated antiseptically. An antiseptic dressing, in order to be effective, must insure two important conditions, namely, complete exclusion of the air, and perfect disinfection of the whole suppurating surface.

In otorrhœa, where the drum cavity communicates with the external auditory canal, by means of a perforation of the drum membrane, it would seem, at first sight, to be impossible to secure these conditions. Stimulated however by the success of antiseptics in general surgery, the profession long since commenced the use of antiseptic solutions and powders in the treatment of purulent middle ear diseases, but with only partial success. Weak solutions of carbolic acid ($\frac{1}{2}$ to 1 per cent.) were found to be useful for cleansing in cases of caries or necrosis of the bone, but it caused an increase in the secretion and a more swollen condition of the tympanic mucous membrane. Salicylic acid in alcoholic solution was used in chronic cases, but it was not well borne in acute cases. Iodoform, either alone or combined with other powders, as alum or oxide of zinc, has also been extensively used, but many object to it on account of the smell.

In 1879 Prof. Bezold, of Munich, commenced the use of boracic acid in the treatment both of acute and chronic cases of suppurative inflammation of the tympanic cavity, and with most encouraging results. He reported in that year 145 cases that had been treated with the boracic acid—29 with acute, and 116 with chronic suppuration. Of the acute cases, the average duration of the discharge was only 13 days; and of the chronic cases the average duration of the treatment, until all discharges ceased, was only 19 days.

After trying saturated solutions of boracic acid, and getting no better results than were obtained from other antiseptics, he tried filling the meatus with very finely pulverised boracic acid, and with the result as just reported.

"He asserts that this method of treatment is so much more certain, and so much quicker than other methods, that he now uses it in every case of suppuration, either of the meatus or tympanum, and also after lesser operations, such as the removal of polypoid granulations, cauterization and paracentesis; he excepts, however, extensive disease of the bone and perforation of the mastoid. He does not consider that it supplants, but rather assists other methods of treatment, like the antiseptic dressing in surgery; cauterization of granulations, removal of polypi, etc., are still as necessary as ever."

"The meatus and tympanum are first cleansed carefully with a four per cent. solution of the acid, then dried thoroughly, and finely pulverized boracic acid blown in over the suppurating surface; the meatus is then closed with salicylic, carbolic or boracic cotton."

"The pulverized acid has the advantage of producing no re-action on the mucous membrane, of withdrawing the water from the membrane which keeps a saturated solution in contact with the inflamed surface, and of not forming coagulations with the secretions. In cases of otorrhea, complicated with phthisis of the lungs, the acid had no effect on the discharge." The use of the boracic acid powder, however, is attended with certain drawbacks. 1. Its application is somewhat inconvenient. 2. It retards the free exit of the discharges. 3. In some cases there is a tendency for the powder "to cake," which renders the thorough removal difficult. 4. It fails to completely remove the odor.

Boroglyceride is free from these objections. It removes the odor almost immediately, and is so easily applied, that in some cases the application may be entrusted to the patient. With its use I have also succeeded in causing granulation tissue to disappear without resorting to the use of chromic acid or the other caustics. It is used as follows: The ear is carefully syringed with a warm, almost hot, saturated solution of boracic acid. Politzer's air bag, or the eustachian catheter is used to force the discharge from the middle ear through the perforation into the external auditory canal. The syringe is again used, and the fundus of the meatus dried with borated cotton, attached to the end of a probe.