

## GAUZE PACKING FOR SUPPURATING EARS.\*

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A little more than one year ago, at the suggestion of a professional friend, I began the treatment of chronic suppurative otitis media with gauze packing. The rationale of this method appealed to my reason so strongly, at once, that I wondered why it had not long before been thought of as the only strictly surgical measure to carry out in this disease.

All that I have seen in literature upon this subject is an article by Le Moyer, of Paris, published more than two years ago, in which he mentions the use of iodoform gauze in acute cases. I am under the impression, however, that it is being used to some extent by the profession, and all that I hope to gain by this paper is to emphasize its importance by giving my own experience with it, and my own positive convictions with regard to its superiority over other methods in use.

If the disease under consideration were confined to regions readily reached by the douche, or by the cotton applicator, it could be very easily disposed of; but, extending as it does to the cavities accessory to the middle ear, it is quite another matter. A moment's consideration of the anatomical structure of these cavities is sufficient to convince one that it is impossible to thoroughly cleanse them in any way except by radical surgical measures. We have to deal with a series of bony recesses, furnishing all the conditions necessary to support the life and growth of the pyogenic microbe; namely, a favorable temperature, a suitable culture soil, the blood serum from the capillaries of their lining mucous membrane, or from the diplöetic vessels, and a quiet retreat, out of harm's way. How can we most effectually invade these strongholds?

We have certain so-called antiseptic drugs. We know by actual experiment that solutions of certain strengths of carbolic acid, bichloride of mercury, etc., will stop the growth of, or render inert, cultures containing the various pathogenic germs when freely exposed to their action.

But what happens when a chronic suppurating ear is douched? The

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external auditory canal is cleansed, possibly. If the tympanic membrane has been destroyed the tympanic cavity may be rendered fairly clean, but in the attic, the antrum and the mastoid cells what occurs? A small quantity of pus may be washed out, a considerable quantity remains in, to which is added a proportionally small quantity of the douche, which may percolate down even to the lowest cell. If the douche is plain, sterilized water, has microbe life been hindered or helped? Suppose the douche carries in solution the bichloride of mercury. We know only approximately the chemistry of pus; we know that it is composed of the elements of the blood in a greater or less degree of decomposition; we know that all animal tissues are very unstable, readily giving up their constituents to unite with those of other bodies to form new compounds. Is it irrational to suppose that the whole quantity of the antiseptic agent may be exhausted by entering into chemical combination with the portion of pus which comes into immediate contact with it to form inert bodies? For example, with the fatty elements to form mercurial soap, or with the albuminous portions to form a coagulum, leaving plain  $H_2O$ , added to a good quantity of undisturbed pus and microbes. Suppose that peroxide of hydrogen is poured into the ear, the excess of oxygen is exhausted in decomposing pus, and we again have  $H_2O$ , plus pus and microbes, as before. What is more helpful to the growth of vegetable life than moisture? Every medical person has observed how aggravated a suppurating disease is in humid weather, and how much better in dry weather. Why does the grass on our lawns dry up and then freshen again as the weather is dry or rainy? I look upon douching a chronic suppurating ear as watering plants. The douche is unsurgical. Its universal use accounts for more hopelessly chronic cases than anything else. It has but one support—tradition. It is contra-indicated in every case in which the drum membrane is not intact.

If microbe life cannot be destroyed in the attic, the antrum and the cells by antiseptics, in the form of watery solutions, what idea can be carried out? Simple drainage. It cannot be hoped to drain out the last pus cell, or the last microbe, but moisture may be withdrawn to the extent that they perish for want of it.

I could cite a number of cases in which gauze packing has succeeded when, seemingly, all other methods had failed. I will mention two, however, which have not been cured, because they illustrate better the points which I wish to bring out.

Case 1. A boy, seven and one-half years of age, came to our clinic for the first time one and a half years ago with the following history: A

puny baby, with suppuration of both ears at three months of age, which was apparently cured; measles at one year of age, followed by suppuration of both ears, which has continued down to date. There was total destruction of both membranes when he appeared at the clinic, the promontories were covered with an abundance of soft granulation tissue; there was a profuse discharge of foul-smelling pus from the ears, and marked loss of hearing. For six months I worked faithfully with everything that I had ever heard of being used, with temporary improvement and then relapses. Then I began packing three times a week with iodoform gauze, after having cauterized the granulations thoroughly. For a time improvement was quite marked, but when the humid days of summer came the treatment had little effect. He would return to the clinic with bloody, foul pus draining through the gauze and running down the neck. A radical operation on both sides was advised, but the parents declined. I then commenced packing each day, including Sundays. Both canals were packed firmly, the conchæ were filled with gauze, a pad of absorbent cotton placed over this and held in place by a netting bandage. At first the whole quantity of gauze was saturated, and even the cotton pad, but the discharge began promptly to decrease, and at the end of five weeks it had apparently ceased. Packing was continued for some weeks, when he disappeared from the clinic. In January he returned, with a little thick pus in both ears. It has been necessary to keep a small piece of the gauze in the ears most of the time since. A little attention, however, keeps them in check, and for the first time in his life, and he is now nine years of age, he has been able to go to school without interruption.

I do not think that suppuration has ever been completely arrested, and I doubt if it can be entirely eradicated without surgical measures, but feel confident that this treatment has accomplished more than anything else could have done. I also feel confident that if douching were again instituted the old condition of things would supervene. The infection remains, the culture supply remains, but the constant drainage keeps the moisture insufficient, and microbe life is thus kept at a low ebb.

This idea is in accordance with the principles of modern surgery. The general surgeon douches the open joint, then dries thoroughly before closing, and he has little excuse for sepsis; but in abdominal surgery the douche has been abandoned, even if an abscess or cyst is accidentally evacuated into the abdominal cavity, gauze drainage is considered the safer measure, for the reason that, owing to the contents of the abdominal cavity, all parts cannot be thoroughly exposed

to the action of the antiseptic fluid, and thoroughly dried. The peroxide of hydrogen is no longer used in the suppurating abdominal wound, the dry dressing and gauze drainage being more successful.

One of my instructors in Vienna said: "If you forget everything else that you have heard from me, remember never to douche the traumatic-ruptured drum membrane; if you do, it is sure to suppurate; if you let it alone it is sure to heal. The infection is in the external auditory canal, and blood serum is in abundance from the contused tissue, but if left dry it soon dessicates." I had an opportunity to see this verified, as a number of cases had been syringed before coming to the clinic, or were accidentally syringed by the attendants.

Those who believe that the douche has a place in the treatment of these cases, avoid its use to clean out powder and epithelium from the external canal in cases in which suppuration has ceased under dry treatment, for fear of starting it again. I maintain that if douching will start suppuration, when it has apparently ceased, it will help to keep it up when it has not ceased.

As to the preparation of gauze employed, one must use some discretion. The iodoform, on the whole, has given me the best results, but in some cases an eczema has been occasioned, and in a few tenderness and swelling of the canals, enlargement of the glands about the ear, and, in one, even constitutional symptoms. In these the bichloride or borated gauze may be substituted.

Case 2. A boy, eight years of age, presented at the clinic January 15 last; had had suppuration of both ears for three years, following scarlet fever. Had been in fair general health till two weeks previously. He was pale and weak, complained of frontal headache, sleeplessness, loss of appetite, and had some elevation of temperature and profuse sweating at night. He was referred to the general medical clinic for examination, and was returned with the diagnosis of slight general sepsis, from absorption from the ears. A little tonic was prescribed, and packing of the ears with iodoform gauze, on alternate days, was commenced. Improvement was marked at once. He had a large quantity of adenoid growths in his naso-pharynx, which were removed when he was strong enough to bear the operation, and he was soon quite well.

The suppuration diminished slowly, and after a few weeks of treatment it seemed necessary to pack every day. After a week of daily packing his canals became red, swollen and sensitive, the glands about the ears enlarged; he complained of frontal headache, sleeplessness and loss of appetite. The ears were packed with plain gauze for a few days and these symptoms disappeared; then bichloro-

ride gauze was employed, but symptoms of poisoning returned, and plain gauze, dried out and scorched a little in the flame, was substituted. Improvement is going on nicely, and I am quite positive that within a short time the suppuration will cease.

If this treatment had nothing else to recommend it, the saving of time would place it above all other forms of treatment. If correctly carried out, the pressure of the gauze upon the diseased surface will keep granulation from returning. In most cases the exfoliated epithelium comes out with the packing, and it is only necessary to repack, or possibly dry out, with a tuft of cotton. It is also convenient for home treatment. People of only small intelligence can be taught to wind the gauze around a toothpick and insert it into the ear fairly well.

In recapitulation, the gauze packing is more correct in principle and more satisfactory in practice than anything in use in the treatment of chronic suppurating otitis media.

Incurable cases can be kept more comfortable with this than anything else. It saves the time of the specialist.

It is suitable and safe for home treatment. It has no contra-indications.

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### **A Case of Extreme Deafness in Which Great Improvement in the Hearing Followed the Use of Pilocarpine.**

Dr. Gorham Bacon, of New York, reports the case of a male patient of thirty-three years who, when first seen, had both tympanic membranes destroyed, and the ossicles bound down by adhesions. (*New York Medical Journal*). There was a slight discharge from the ears. Under the hypodermic injection of pilocarpine, the patient, who had formerly been able to hear only by means of a trumpet, could now hear the raised voice at a distance of one and a half feet. The remnants of the drum-head and ossicles were then removed, this being followed by greater improvement in the hearing.

The author has obtained the best results from pilocarpine in cases of sudden deafness due to syphilis.

SCHEPPEGRELL.