tampons with a string attached are the best for this purpose, the mouth being held open with an O'Dwyer mouth-gag.

The point of view of the general practitioner and that of the specialist will never be the same, and I have endeavored in this lecture to give you a certain broad appreciation of the subject. Remember that you have no right to operate upon any patient without having thoroughly explained the situation to him and the anticipated result from interference, otherwise you are not treating him fairly.

TREATMENT OF CHRONIC RHINITIS.

CLINICAL LECTURE DELIVERED AT THE VANDERBILT CLINIC.

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THE treatment of the various forms of chronic rhinitis is a subject upon which a great deal has been said and written. I am going to try to remember to-day that I am talking to men who will be general practitioners,—not specialists,—and who will not have at their command a multiplicity of apparatus, more or less costly, and that therefore I must be practical and deal with methods and instruments which are within the reach of every one, whether he be practising in the city or in the country.

How are you going to treat your cases of chronic rhinitis? First examine your patient and find out whether he really has nasal catarrhal trouble. Then determine what form of rhinitis it is. This will take you back to what I said last week,—namely, that there is more than one form, that some are curable and some are incurable, and that the day has gone by when you can class all catarrhal troubles of the nasal mucous membrane as "catarrh." You must recognize that there are at least three forms of catarrhal trouble. The third practical point is that in your conversation with your patient you must let him understand that you are dealing with a chronic affection, and that you cannot help him in as many days or hours as he has had the disease years. Tell your patients what their trouble is, what grade it is in, and how much you can do to help them, and, what is equally true and equally right, what you cannot do. If it be an atrophic or a fetid rhinitis, which will baffle your skill, let your patient understand that from the outset. In some cases you are bound to fail, simply because you cannot regenerate a mucous membrane which has become atrophied to such a degree that restoration is a physical impossibility.

The question whether constitutional treatment is indicated must be

determined in each case. This point is too often overlooked. Take a patient with a strumous diathesis or a catarrhal diathesis. In each of these forms the constitutional conditions which underlie the local affair must be combated at the same time that you are treating the nasal condition. Cod-liver oil, the iodides, iron, a change of air and occupation, —all of these will suggest themselves to you in certain cases of catarrhal trouble. The majority of cases are treated by local measures alone; but never omit to ask yourself the question, Is there any underlying diathesis that should receive attention? The question will also arise, whether any of the drugs that have been recommended from time to time as having a beneficial therapeutic effect upon the mucous membrane of the respiratory tract in a diseased condition are really of great value. The three drugs that are commonly used are oil of cubeb, muriate of ammonium, and gum ammoniacum. Each of these is supposed to have its influence upon the respiratory mucous membrane, but you cannot cure your case of nasal catarrhal trouble by their use alone.

Absolute cleanliness is a very essential principle in the treatment of catarrhal affections of the nasal passages. This principle practically underlies all others. Ask yourselves, if you please, what benefit can be derived from the application of medicated sprays or powders to a mucous membrane that is protected and covered by a layer of thick, tenacious mucus, or encased in an armor of hard, inspissated crusts. The mucous membrane must be cleaned before your application is made, if it is to be of the slightest efficacy. On the other hand, the matter of cleanliness may be overdone, and much harm ensue. The real or fancied relief that every patient experiences after the use of the nasal douche leads him to employ it at constantly-decreasing intervals. This relief is only temporary. I have known patients to use a strong saline solution in this way six, eight, and even ten times a day. Now, the influence of treatment of this kind, or rather abuse of this kind, is sure to be harmful. The use of these strong saline solutions passed through the nose under considerable hydrostatic pressure is often the cause of the development of catarrhal inflammation. The frequency of your applications and the amount of fluid you use must be brought down to a minimum. When there is simply a mucous or a muco-purulent secretion covering the membrane, it can be easily removed by blowing the nose. No washing out is necessary in these cases. I have discontinued washing out the nasal passages in more than fifty per cent. of my cases, and, being relieved of an element of irritation, the results of treatment are better. In extreme hypertrophic rhinitis, where the mucous membrane bulges out and dams up the secretion in

the naso-pharynx, the patient cannot relieve himself, and some form of cleansing becomes a necessity. And much more does it become a necessity in atrophic rhinitis, where the hard crust blocks up the nasal passages. The douche, the spray, and the syringe will often fail to loosen these scabs, and they must be removed by instrumental means.

How are you going to cleanse the nasal passages? Never use the nasal douche; it is insufficient for the purpose for which it was constructed. It will not clean the upper part of the nasal passages, nor the naso-pharynx, nor the posterior pharyngeal wall. Dismiss from your minds the idea that any case of nasal catarrhal trouble was ever cured by the use of the nasal douche, or ever will be. There is nothing curative in the use of any of these cleansing or washing-out solutions. They are palliative, they are comforting to the patient, and they prepare the way for further remedial measures. The apparatus I prefer for washing out the nasal cavities is this "nasal spray apparatus." It is simply arranged to throw a very coarse spray in the right direction. The conical tip closes up one nostril completely; the fluid then enters one nasal passage and passes out by the other. Power is obtained by means of a double hand-ball tube. With it the nasal passages and upper pharynx may, except in rare instances, be thoroughly cleansed of secretions and crusts by the use of less than one ounce of fluid. Being a coarse spray, it washes up, loosens, and dislodges the secretions. There are cases, however, where no form of spray or wash will answer the purpose. These are the cases of atrophic or fetid rhinitis where the crusts are firmly attached, and where, as I have before said, instrumental interference is necessary.

Various alkaline cleansing and disinfecting solutions may be used to wash out the nostrils. I use, with the nasal spray apparatus, either of the following:

℞ Acidi carbolici, ℈i;
Sodii boratis,
Sodii bicarbonatis, āā ʒi;
Glycerini,
Aquæ rosæ, āā ℥i;
Aquæ, ad Oi.

The quantity of carbolic acid in this solution is necessarily often varied to suit the susceptibility of different mucous membranes.

Or, better still,

℞ Sodii bicarbonatis,
Sodii boratis, āa ʒss;
Listerine, ℥i;
Aquæ, ad ℥iii.

The mucous membrane having been thoroughly cleansed, we come to the direct treatment of the catarrhal mucous membrane. Excluding for the present the use of caustics and of surgical measures, the treatment is based practically either upon the employment of various medicated fluids, used in spray by means of some form of atomizer, or upon the use of medicated powders, applied by means of insufflation. My own experience prejudices me strongly in favor of the spray. I believe the insufflation of medicated powder may be of some service in simple rhinitis; it is of no use in hypertrophic rhinitis, and it is contra-indicated in atrophic rhinitis. I now turn to the medicated spray. I believe that with a proper spray-tube and a sufficient amount of pressure no more perfect application can be made to the parts. Unless the treatment is done thoroughly and efficiently, systematically and persistently, it will fail. There is no royal road to the successful treatment of these cases. In making the application through the posterior nares, the patient should depress his tongue by means of a spatula, and the soft palate should be drawn forward with the palate-hook; if this is not done the soft palate will be drawn upward, approximating the pharyngeal wall, and the spray is useless. While your patient is breathing through the nose, the soft palate drops forward, and you can then grasp it. And now between the soft palate and the posterior pharyngeal wall the beak of your spray-tube is quickly introduced, and the spray thrown upward into the vault of the pharynx and forward through both nasal passages. I usually employ a force of between thirty and forty pounds, driving this atomized solution into all the little depressions and irregularities that exist in the nasal passages.

Various forms of apparatus are employed in making these applications of the spray. By far the most effective is the complete compressed air spray apparatus, like the one you see here. If you do not possess such an apparatus, you can employ one of the hand-ball atomizers, in which the propelling power is developed by the compression of india-rubber hand-balls. This is much less efficient, because less powerful, than the compressed-air spray. Moreover, both of the operator's hands are occupied with the working of the hand-ball spray, so that he cannot use the palate-hook, and I would therefore advise you, if you are obliged to use this form of instrument, to make the spray applications through the anterior nares.

The medicated solutions that I most commonly employ are the following, given in the order of their preference.

In any of these formulæ, "Listerine" may be substituted in part for the water, in the proportion of one part of the former to three of the latter.

1. Zinci iodidi, gr. v ad aq. ℥i;
2. Zinci sulpho-carbolatis, gr. v ad aq. ℥i;
3. Zinci sulphatis, gr. v ad aq. ℥i;
4. Ferri et ammonii sulphatis, gr. v ad aq. ℥i;
5. Ferri chloridi, gr. v ad aq. ℥i;
6. Acidi tannici, gr. v–xx;
7. Potassii chloratis, ℈i.

If the simple rhinitis has advanced far towards the hypertrophic stage, I begin at once with:

Iodini cryst., gr. iv;
Potassii iodidi, gr. x;
Zinci iodidi,
Zinci sulpho-carbolatis, āā ℈i;
Listerine, ℥i;
Aquæ, ad ℥iv.
Use as a spray.

The appropriate cases for medication as suggested above are those of simple catarrhal rhinitis, and certain cases of hypertrophic rhinitis where the hypertrophy is not excessive and where the tissue has not become completely organized. But suppose a case where there are large masses of organized hypertrophic tissue and, beneath this, enlargement of the erectile tissue. Such a case must be treated surgically, and you simply waste your time by employing any form of treatment I have so far spoken of. By surgically, I mean by the cautery or some form of caustic, which will succeed in reducing these hypertrophic masses. First apply a ten-per-cent. solution of cocaine, which will anæsthetize the parts and contract the mucous membrane tightly against the turbinated bone, giving you room to work. Then take a small probe, its end wrapped in absorbent cotton, and saturate this with one of the caustic agents at your command, such as nitric acid, glacial acetic acid, chromic acid, or silver nitrate; of these I always advise nitric acid. Under the guidance of the light from your head-mirror, you cauterize the turbinated bone at its point of greatest convexity, drawing the probe along in an antero-posterior direction. Squeeze out your probe, again dip it in the acid, and again cauterize throughout the whole length of the turbinated bone. Cauterize deeply, but do not smear the acid over the entire interior of the nasal passages. The action of your caustic, aside from destroying absolutely a line of hypertrophied mucous membrane, excites a hyperplastic inflammation of mucous and

submucous structures; as the product of this in time organizes and contracts, it obliterates in part the erectile tissue underlying the membrane and contracts the latter, a process that is aided by the shrinking of the strong cicatrix of the wound that you have made. Altogether the result will be that the redundant mucous membrane is drawn down into its proper place and remains there; the nasal passages are thus freed.

It may be that a condition will exist where the posterior extremity of the inferior turbinated bone is immensely hypertrophied, so that a tumor is formed in the posterior nares, blocking them up more or less completely. Cauterization will not remove such a growth. It can, however, be readily removed by means of the Jarvis snare. The nasal mucous membrane is first anæsthetized by cocaine. The snare is passed through the nasal passage until it slips over the hypertrophied mass, which is gradually cut away.

The treatment of atrophic rhinitis is a hopeless one. Your only indication is to keep the nasal passages perfectly clean and then lubricated by the use of vaseline, albolene, benzoinol, etc.

FOLLICULAR TONSILLITIS; INTUMESCENT RHINITIS—CAUTERIZATION; HYPERTROPHIC RHINITIS.

CLINICAL LECTURE DELIVERED AT RUSH MEDICAL COLLEGE, CHICAGO.

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Case I.—This man asked me to look at his throat after he had already made a correct diagnosis of his disease. It is a case of acute follicular tonsillitis. The trouble began night before last with a general feeling of discomfort, followed after a few hours by aching and lameness in every part of his body, accompanied by a sensation of irritation in the left tonsil, which gradually became painful. The next morning after this onset his knees and other joints ached as though with an attack of acute rheumatism. To-day he is sweating freely and still complains of some lameness and headache, and speaks of a feeling of fulness or swelling in the throat, by which his voice is evidently modified. Upon deglutition he experiences pain, the same in amount whether he takes liquids or solids. Often patients complain more upon swallowing liquids than upon swallowing solids; in acute inflammation of the tonsils the reverse is usually true. Upon looking into this patient's throat, I find the tonsils moderately swollen and red; and upon each two or three small, white or yellowish-white patches, which have the appearance of being depressed, and are six or seven millimetres in diameter. The palate and uvula are slightly reddened and relaxed. The pharynx is not markedly so, but it contains an abnormal amount of mucus.

There are not so many of the follicles involved here as we usually find, and I think the depression of the yellowish patches, though characteristic, is somewhat greater than is generally observed. Not