quent as among the uncircumcised of other faiths. We hear considerable of making the toilet of the prepuce, yet it will often be found very filthy in men who are singularly clean about the rest of their person. I am not prepared just yet to advocate universal circumcision.

DR. FISCHER—I saw a secondary hemorrhage following on the second day after a surgical—not a ritual—circumcision. It was not a case of hemophilia. I should like to know the after-treatment for the unusual, not simply for the normal, cases.

DR. VALENTINE—It is inconceivable to me how secondary hemorrhage can occur except in cases of hemophilia. It is a singular thing, however, that hemophilia occurs more frequently among the Hebrews than in any other race. I must admit I have seen secondary hemorrhage follow ritual circumcision. Here, torsion or ligation has been required. Uncleanly people sometimes allow the circumcision wound to become dirty and infected. By the technique alluded to in my paper the parts are protected from infection, though before adopting this method I did occasionally see these cases. I saw one case of infection after circumcision by the method described in a case which had been operated on by a beginner. Examination showed a stitch abscess from unclean catgut, and a neglect of proper precautions at the time of operating. These accidents should not occur. I have never performed circumcision upon a hemophile, but should I do so the chances are that I would try the effect of suprarenal extract. I should also treat the hemorrhage on general surgical principles. Sometimes in performing circumcision a vein is cut, with resultant hematoma. Even a very small hematoma can cause considerable fever—perhaps even as high as 104.5. In one such case all that was necessary was to curette out the hematoma and re-dress the parts. Within an hour or less the temperature had dropped to the normal.

TREATMENT OF LARYNGEAL TUBERCULOSIS AT THE MONTEFIORE HOME FOR CHRONIC INVALIDS (N. Y.)*

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One of the most difficult chapters in the treatment of the upper air-passages is the management and treatment of laryngeal tuberculosis. In fact, to the hospital physician this has been one of the most disagreeable tasks possible. To see these most miserable of sufferers live for months, or even years, with constantly increasing pain, for whom even the swallowing of their own saliva is a dreaded effort, has been an occurrence of every day; and we, as physicians, have been as a rule practically helpless in combatting this disease. Morphin, internally and locally, quickly reached its effectiveness in most cases, and for many patients the cocain spray is extremely disagreeable. For the last ten years I have had to attend to these patients at the Montefiore Home, where we have sometimes as many as twenty or thirty suffering from laryngeal tuberculosis in every stage possible. That under the above condition of our comparative helplessness it was not pleasant to treat these patients and see them suffer pain constantly, with occasional relief lasting half an hour or a little longer, every one will admit. Luckily things have changed in the last few years, and I confess that nowadays it is a pleasure to treat such patients. They look happier, they feel better, can swallow much better, and last, but not least, they are anxious to receive the treatment, while formerly they not infrequently tried to avoid it. All these facts have also been noticed by other physicians who have seen the patients at the above institution.

However, before I describe the methods applied nowadays, I will say that there is a stage foregoing the formation of tubercles and ulcerations in the larynx. Such conditions we can see quite often in an institution like

the above one, where there are besides the many consumptives just as many afflicted with some form of nervous or other troubles. These conditions in the larynx, which I might sum up under the name of

"PRETUBERCULOUS LARYNGITIS,"

have to be treated with as much care as the outspoken tuberculous affections of the larynx. Of course, this is done with greater ease in a closed hospital with mixed patients—i. e., tuberculous and non-tuberculous—where every one showing any of these symptoms is considered suspicious and treated accordingly. But with people who already have signs of tuberculosis of the lungs, and manifest some catarrhal symptoms in the larynx, this can and ought always to be done in private or dispensary practice as well. If in this stage a patient is treated conscientiously I am convinced that in many cases an outbreak of tuberculosis of the lungs can be avoided.

The symptoms of this stage are anemia, hyperemia and swelling. In making these divisions I agree perfectly with Otto Ringk,¹ when he says: "The treatment of this first stage is to be considered according to whether we have to deal with anemic or with hyperemic mucous membrane. The strictest differentiation between the medicaments after this point has been decided assures the possibility of success. The former naturally will need more irritant drugs than the latter.

In the anemic stage I have found the following to be of service: insufflations of zinc sozoiodol with sugar-of-milk, with applications of nitrate of silver in 3 per cent. solutions, liquor ferri sesquichlor. (1 to 30) and balsam of Peru with spir. vini rectif. I have not risked applying any strong astringents or caustics for fear that we might get not only a hyperemia, but as it occurred in a case of Ringk's, an edema of the entire mucous membrane of the larynx. I need not remark that such an accident is the last to be desired, and that we have to be on our guard in making applications.

In the hyperemic stage I have used, with here and there remarkably good results, the following solution: Creosote, 5; spir. vini, 10; glycerin, 50. (The creosote can be used even stronger; see Schech.) Applications of tannin, alum and other astringents have also been used with benefit. That different inhalations ought to be used besides this treatment, and that especially at this stage any catarrhal condition of the nose or throat ought to be looked after very carefully, I will only mention in passing.

After ten years' experience at the Montefiore Home, I am convinced that there exists such a pretuberculous laryngitis, and that it can be treated successfully in a number of cases, thus preventing the real outbreak of tuberculosis in the larynx. Once an erosion or an ulceration is to be seen in the larynx, we treat the patient as tuberculous. This leads us to tuberculous laryngitis itself, and we see here, as is generally conceded, four different forms, viz.: 1, the tuberculous infiltration; 2, the tuberculous ulceration; 3, the tuberculous tumor, and 4, miliary tuberculosis of the larynx. I do not wish to go into details as to the pathologic anatomy of these conditions. Allow me to remark only that I have repeatedly seen, and here I agree with B. Fränkel, miliary tubercles in the larynx. Virchow even recommends the larynx to all those who want to study the true tubercle. These tubercles, however, are located very superficially and break down at a very early stage, leaving a small shallow ulcer. This is the reason that

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Monatsschr. f. Ohrenheilkunde, p. 180, 1889.

we so often see ulcerations but not miliary tubercles. At the Montefiore Home, where I examine the patients and watch them at a time when they show no symptoms of tuberculosis and complain only, perhaps, of a little scratching in the throat, I repeatedly saw, as I have said, some miliary tubercles.

That in the general treatment of laryngeal tuberculosis pure air is as essential as anything else, goes without saying, and this fact has been recognized by the directors of the Home. Upper Broadway—near One Hundred and Fortieth Street—where this institution is located, has become a great thoroughfare, with entirely too much dust and traffic for consumptives. Therefore, a new home with all modern improvements is being erected in the country, at Bedford Station, N. Y.; and it is the purpose to gradually remove all the consumptives to this country place. This plan will surely bear excellent results in the near future. I need not mention that general treatment is carried out, including hydrotherapy, rest-cure, etc. A great problem for us still is how to keep all these patients occupied, but I hope we shall come nearer the solution of this when all consumptives are housed in the country.

LOCAL TREATMENT.

We now come to the most important point, the local treatment. The majority of our patients are in an advanced stage, and the treatment is thus so much more difficult than it is in many other institutions. At one time the application of different powders was very much in vogue. The most important of these, which still are popular to a certain degree, are boric acid, iodol, euclophen, dermatol, aristol and pyoctanin. The latter is recommended by Bresgen, Rosenberg, Schech and others.

More important were the fluids used for direct application, and there is hardly any new or old drug that has not been recommended. The iodoform ether solution, which at one time could be seen in almost every clinic in the United States, is now very little used; Rosenberg's menthol with oil, carbolated glycerin, resorcin, balsam of Peru with collodion, the phenolum sulfuricinicum, the injections of creosote and orthochlorophenol in glycerin, all have their followers, and have been applied with some satisfaction in a certain number of cases.

Lactic Acid Treatment.—The remedy par excellence, which for the last ten or twelve years has predominated over all, is lactic acid. I can speak with a certain authority about lactic acid, as I witnessed the very first experiments made in Berlin in 1885, by Professor Krause, and followed up some of these cases until their death. Since 1885 I have used lactic acid constantly. I know its advantages and disadvantages. We had seen tuberculous ulcers heal under nitrate of silver, under zinc chlorate, and other astringents, but it was claimed that the proportion was larger under lactic acid. There was some truth in this assertion, and I myself applied lactic acid during all that time, merely for want of something better, for I knew how many patients dreaded these applications—the pain, which sometimes lasted from ten to twenty hours after lactic acid had been rubbed into the ulcerations, was terrible to them, and others again feared the spasm of the glottis more than their usual pain. In a dispensary, where consumptives come and go, we do not notice how many stay away from such treatment, and judge only from those who remain. It is different in a sanatorium where the same patients are seen constantly, and I know quite a number who used all kinds of excuses only to stay away from the lactic acid treatment. It is different now. Since new drugs

have given us the ability of making these people comfortable, they anxiously wait for treatment, and I have seldom known any one to miss it voluntarily.

Menthol-Orthoform Emulsion Treatment.—The way we proceed is the following: We generally cleanse the larynx, if this be necessary, with any indifferent spray, or swab it with cotton, etc. This is advisable also when there are secretions below the larynx in the trachea and down to the bifurcation. This previous cleansing makes the patients cough up the greater part or all of this secretion, and they can retain the drugs better. Whether these drugs do not in this way reach some ulcerations in the trachea which can not be seen by laryngoscopic examination, is a question which I should not like to decide here. It is, however, conceivable that fluids especially run down the trachea and gradually reach deeper ulcerations in the trachea.

After this cleansing a powder consisting of saccharated suprarenal gland—about 3 to 6 grains—is insufflated into the larynx mostly, on to the ulcerations. I do this in the beginning of the treatment, when I do not know the toleration of the patient, for the following drugs. But now it seems to me almost rational to use it in all cases of dysphagia, as it helps to prolong the local anesthesia. I have entirely abandoned the use of cocain for these cases, and this for several reasons: 1. The paresthesia following the application of cocain is very disagreeable to many patients. 2. It undoubtedly affects the heart in some cases. 3. The solution decomposes quickly—this holds good for all cases. The powdered suprarenal gland has no toxic effect if applied in this manner; it does not produce the paresthesia, but on the contrary, within one-half to one minute, a pleasant cooling sensation sets in, and it does not decompose readily in this powdered form.

The next step is the application of my menthol-orthoform emulsion. I have been using this emulsion for over two years, and the more I use it the better I like it. Carl Kassel was the first one to use an emulsion with olive-oil. He says² that my emulsion is a great improvement on his, but that a bad taste persists after its use. I have never heard any complaint of this from any patient, nor from any other physician, and I think the Doctor is mistaken in this respect. If anything, the taste of the menthol-orthoform emulsion is pleasant.

There can be no doubt that the anesthetic properties of the orthoform on the mucous membranes of the ulcerated larynx are of immense value. And there is no longer any question that by means of the application of orthoform we are able to relieve pain, and cause a disappearance of the difficulty in swallowing, lasting, according to my present experience, from a few hours to three, four, or even five days. These patients are not only able to take nourishment readily, and thereby are placed in a better position for a possible cure, but in favorable cases we completely remove the pain.

In all irritations of the larynx menthol is of excellent service. No doubt the good results obtained some fifteen years ago, by my friend Prof. A. Rosenberg, of Berlin, with injections of menthol with oil, were due to this fact. It relieves the cough and with this much of the secretion. This is the reason I added menthol to the above emulsion. I use the following:

R. Menthol.	1, 5, 10 or 15
Ol. amygdal. dule.	30
Vitelli ovorum	25
Orthoformi	12½
Aquæ dest. q. s. ad.	100
Ft. emulsio.	

2. Ibid., p. 245, 1899.

I commence with 1 per cent. menthol in this emulsion, and as quickly as the toleration of the patient permits I increase it to 10 per cent., and it has been in the rarer cases only that I have used 15 per cent. menthol. This is a drug that causes a burning pain, especially if applied as it has to be done, directly on the ulcerations. But as I should not like to miss its good effect, as above stated, I frequently induce preliminary anesthesia with the suprarenal gland. But many patients tolerate menthol without any pain whatever.

I wish to cite a few examples of cases treated in this manner.

C. B., 48 years of age, a cigar-maker, had been forty years in the United States. His mother died of dropsy, his father of old age, and one brother of tuberculosis. He has three children; one child died of pneumonia. He was a moderate drinker, but heavy smoker—20 to 30 cigars daily. Six years ago he had some diseases of the lungs, which kept him in bed five weeks.

Oct. 17, 1899, when seen, he was below the average height, and somewhat poorly nourished. Percussion was dull in the upper left portion anteriorly and posteriorly, with tenderness on percussion in many places, especially on the left shoulder. Over both lungs were numerous small moist râles, especially over the left apex; over the right apex expiration was roughened and prolonged. The spleen was enlarged and palpable, and there were tubercle bacilli in the sputum. The larynx showed interarytenoid infiltration with papillomatous excrescences, slight ulceration on the right side of the epiglottis. I injected menthol-orthoform emulsion—menthol 10 per cent.; no cocain.

By March 22, 1900, the ulcerations on the epiglottis were healed, and the interarytenoid infiltration had disappeared. The epiglottis was now marked horse-shoe shape, and much thickened. There was no pain till the day before. A broad, somewhat deep ulceration on the right aryepiglottic ligament was to be seen. For experiment, no application was made.

On March 26, pain in swallowing was severe, and he could eat but one meal daily. The ulcer was covered with a thick tenacious phlegm and debris. Cleansing of the ulcer and application of menthol-orthoform emulsion was tried, and repeated March 29, with such success that on April 2 the patient felt much easier again and could eat, but had some pain. The ulceration looked clear, and was only superficial.

On April 16, there was renewed attack of pain on the right side of the larynx. The right arytenoid was enlarged and edematous.

April 21, after a quantity of badly tasting pus had been expectorated, the patient again felt easier.

On May 14, subjectively, the patient remained the same during all the treatment; i. e., under regular treatment with orthoform-menthol emulsion he could swallow all the food he wanted, and his appetite being good he ate well. Only when taking thin fluids as water, tea, etc., he had to be careful, else he would get a paroxysm of coughing which would be followed by vomiting. Objectively his condition was worse. The epiglottis was very flat and very much thickened; the aryepiglottic ligaments—especially the right one—were infiltrated and the arytenoids enlarged. The ulcers would come and disappear again after treatment.

I selected this case first to show how a man with such advanced laryngeal tuberculosis can go around eating his meals regularly, joking and enjoying life. Of course, *quoad finem*, his prognosis is doubtful, especially as the condition of the lungs became worse. But if this man has to die we have at least saved him months and months of terrible, sometimes almost unbearable, pain. Besides, we have given him the possibility of being nourished well for the last six months, and if his power of resistance is strong enough he has another and greater chance of recovery. That such ulcerations do heal under the treatment mentioned, this case has shown repeatedly.

Before giving the history of the next case, let me quote from a former article of mine regarding surgical intervention in such cases. I remarked³: "I am able to report 29 cases the history of which I have found, although I know that more than double this number have been operated upon by me. I will, however, base my conclusions only upon these 29 accurately described cases. Of these 18 were not improved, in 7 a slow amelioration occurred which could be attributed to the operation, and in 4 an almost immediate improvement took place. Of the 18 unimproved cases, 13 were in an advanced stage of pulmonary phthisis, that is, with formation of cavities, etc., and 5 were in the earlier stages. None of these 18 patients experienced any relief after curettement; the majority, indeed, attributed the deterioration in their health to the operation, and in many cases I was of the same opinion. I was struck by the fact that a large number of infiltrations, with or without formation of ulcers, were in the interarytenoid space, forming the well-known polypoid excrescences on the posterior wall. In the 7 patients of the second class slow improvement occurred, and I have noted this in affections of almost all parts of the larynx. As this amelioration constantly followed on the surgical treatment, I consider myself justified in ascribing it to the latter. In considering the last 11 cases, one would be inclined to regard these surgical operations in the nature of a salvation, but unfortunately we must not lose sight of the first 18 cases, in which the results were not good. And if I were asked to give the indications for curettement I would not be able as yet to state them accurately, in spite of the fact that many laryngologists have studied the subject for over a decade. An important factor is that we are still unable to observe or appreciate the extension of the tuberculous process to the invisible portions of the larynx, or the contiguous parts, or otherwise to form an idea of its progress, which is governed by laws as yet unknown to us. As for me, I always regard such intervention as an experiment, and leave the decision to the patient. We learn, therefore, from the above statistics, that while we have been able to effect some excellent results, we have not been spared marked disappointment in a large number, and, indeed, in the majority of cases."

This was my standpoint somewhat over a year ago. I therefore resolved to try for one year without curettage. There were several cases in which, according to former views, curettement was indicated. Although I was tempted to do it repeatedly, I abstained, and after a year's trial without curettement, I believe my patients are just as well and perhaps better off than they would have been with the operation. Whether in the future I might not come across any cases in which it will be indicated, I can not say. My present view may be illustrated by the following case.

M. G., 49 years of age, a waiter, had been four years in the United States. His father died at 46, of some sudden throat illness, his mother at 58, of pneumonia; two sisters, two brothers and his wife and children are all well. He was well up to three years ago, when he had a chill, and on the following morning could not talk above a whisper. Last winter he began to cough and expectorate; no pain, but could not eat; had night sweats; has lost thirteen pounds in the last four months.

Sept. 20, 1899, there was extensive dulness over both upper lobes; exaggerated respiratory murmur; here and there moist râles. The left, anteriorly, in a limited area, showed slight bronchial breathing; there was whispered voice, the sounds not increased. The heart sounds were somewhat accelerated.

3. Phila. Med. Jour., March 25, 1899.

The sputum contained tubercle bacilli. The patient had had repeated hemorrhages.

When my service commenced, on January 1, he had outspoken tuberculous laryngitis, especially infiltration of the left ventricular band. This infiltration was so marked that it covered the whole vocal cord. There were superficial ulcerations on the left aryepiglottic ligament, and the patient had considerable dysphagia. He received injections of orthoform-menthol emulsion, first only once a week, then twice weekly, and felt very much improved. During my temporary absence from the service he did not get the injection, and felt worse. His condition improved as soon as I resumed the treatment. No ulcerations were to be seen, but he felt better after the injection.

Now, after five months' treatment, the patient is in such a condition that he very rarely complains of pain. The infiltration is so much less that the vocal cord can be seen; there are no ulcerations, and the thickening of the left aryepiglottic ligament has disappeared. The patient would not think of submitting himself to operative interference, and I am of the same opinion. There is a great possibility that if we stopped with the orthoform-menthol emulsion his pain would return, also his irritating cough, and through that probably ulcerations and infiltrations (?) too. But as long as these injections can be administered so easily, why discontinue them? Why try anything else?

There is one point I can not emphasize enough, viz., to make these injections carefully. If one is in a hurry and injects the whole syringe at once, in most cases a coughing spell will set in, and bring up all the emulsion. This will occur even when the preliminary anesthesia of the larynx with the suprarenal gland has been effective, as much of the emulsion goes down into the trachea. But if one is a little careful and injects the emulsion slowly, it will adhere to the surface, and the good results will surely appear.

Treatment with Oil.—There are some patients, however—and luckily they are the exceptions—who can not stand anything, be it cocain or anything else. They gag at the slightest provocation, or they vomit just as easily. These are patients who lack the smallest particle of energy, or who are exhausted from a very long illness, and near the end. For this class I have tried olive-oil.

Last year Paul Cohnheim, an assistant of Boas, of Berlin, reported the case of a man with *ulcus ventriculi*. This man, on his own account, had for weeks taken large doses of linseed-oil, and was thus cured. The oil worked like a grease—lubricant—by diminishing or abolishing the friction. We see this, as Cohnheim correctly says, in other parts of the body, too, as for example in the urethra and anus. Just as easily as large masses of feces pass the anus with comparative ease, even in the presence of rhagades or ulcers, so does food pass the oiled stenosed pylorus. Rosenheim applied this treatment in carcinoma of the esophagus, with surprisingly good results; also Boas and Akimo-Peretz saw good results. The latter gave 50 to 100 grams of an emulsion of oil of almonds daily before each meal.

I read all this only a short time ago, and it occurred to me that by lubricating the esophagus with any oil the food ought to pass more readily through that difficult place behind the infiltrations or ulcerations of the larynx, thus partly, at least, relieving the dysphagia. The first case treated in that way was that of M. Y., 34 years of age, a salesman. He was suffering from advanced tuberculosis of the lungs, and complained of great dysphagia and ulcers of the tongue. He was so weak that he could hardly sit up. An examination of the larynx was impossible, as he had too much pain in

holding out his tongue. Insufflations with the suprarenal gland, or injections of the menthol-orthoform emulsion, or even cocain, were useless, as he vomited up everything. I therefore tried to improve his lingual ulcerations first. These were situated on and around the tip of the tongue. They spread especially on both sides, and under the tongue at least an inch in each direction. There was no diabetes nor any specific infection. In this case even the concentrated lactic acid had been used before he entered the home, with no good whatever. The application of the menthol-orthoform emulsion had the same negative result, and I am almost inclined to believe that orthoform has very little effect on the tongue, but as yet I can not judge sufficiently in that respect, as these cases are rare. At any rate, he did not improve, and as an experiment I gave him a glass of olive-oil one-half hour before his breakfast. After four days he said he could swallow a little easier. I now had 10 per cent. nitrate of silver applied to his tongue, and injected, into the larynx, a few drops of the menthol-orthoform emulsion, which he retained. The olive-oil was continued, and three days later he again felt better and I was able to examine his larynx. There were deep ulcerations on the epiglottis, and both aryepiglottic folds. The vocal cords were irregular and ulcerated. His tongue improving but slowly, I again tried lactic acid for it, but if anything it made it worse.

These cases of lingual tuberculosis are not frequent, and I just recall one case by C. E. Bean, of St. Paul.⁴ He says: "Lactic acid has been very much vaunted, and one or two cases are reported as having been cured by means of this remedy, well rubbed into the ulceration; but the numerous failures to even afford temporary relief seem to demonstrate the fact that it is no more to be depended upon when the disease is situated in the tongue than when it has been developed in the larynx; and the result of treatment in that location has been disappointing." My experience is about the same. I can not report much more about the patient, except that within a few days he could swallow a little easier, and that he left for Europe.

The next case I treated with olive-oil was a private patient: N. O., 48 years of age, a business man. Eighteen years before he had acquired syphilis, and for four years had had tuberculosis. He complained only of great dysphagia, and the conditions were about the same as in the previous case. He rejected everything, and an examination in his bed was impossible. I ordered one glass of olive-oil every morning, which he took with great reluctance. After five days the house physician reported to me that there was some improvement in swallowing. I then saw him three days later, and after taking the olive-oil with great disgust he felt much better, as he had been able to take quite a little nourishment. As he had now decided to leave for the country I did not make any further trial with orthoform, etc., but advised him to continue for some time with the oil. At this last visit I saw in the larynx all the symptoms of advanced tuberculosis. A few weeks later I heard that his dysphagia was improving steadily. In the two other cases treated with olive-oil, I did not see any improvement whatever, and I shall not report them in detail. However, I consider it just, in suitable cases, to give this a further trial, and shall do so in the future.

Phototherapy.—The last of our resources in treating laryngeal tuberculosis is phototherapy, or treatment with the electric or sunlight. I have had some results

4. Bean, C. E.: Report of Two Cases of Buccal Tuberculosis, N. Y. Med. Jour., Sept. 14, 1889.

with that treatment, but I have not reached any final conclusions in regard to it. However, I shall publish all my experience in phototherapy in the near future.

Heroin for the Cough.—And now one word about the bronchial cough in these cases. Among the most distressing symptoms of laryngeal tuberculosis is the concomitant bronchial cough, which is often of a most harassing character, and contributes materially to the patient's exhaustion by preventing rest at night. For its relief we were formerly forced to rely on morphin and codein, although both these drugs left much to be desired. Aside from its well-known after-effects, morphin is particularly objectionable because of its tendency in many instances to disturb the digestive organs, and thus impair the patient's appetite. Codein, while in general preferable to morphin, has the disadvantage of being uncertain and unreliable in action. The introduction of heroin has been a decided advance in the treatment of cough in phthisical cases. In an article on the "Treatment of Dysphagia and Cough, Especially in Tuberculosis,"⁵ I have reported my preliminary results with this new drug, which were most favorable. Since then its continued use has given very satisfactory results. The irritable cough in tuberculous patients frequently yields to the administration of heroin, and this occurs in cases in which both morphin and codein have proved completely inefficient. The action of heroin in modifying the respirations by diminishing their frequency and increasing their force, renders the breathing much easier. Aside from some lassitude and slight constipation, I have never observed the least after-effects from heroin, and as my experience relates now to several hundred cases in dispensary and private practice, I feel convinced that the drug is perfectly safe when used with ordinary precautions. In several instances, however, the constipation was sufficiently marked to call for the administration of laxatives, such as extract of cascara sagrada and aloin. My observations in this respect are in accord with those of Einhorn, Manges, and others, who have reported their results. Although we can not be sufficiently conservative in admitting to our confidence any new remedy which claims our attention, my experience with heroin has now been so extensive that I have no hesitation in assigning to it a prominent place in the list of medicaments for the relief of cough.

In summing up my experience with tuberculous laryngitis, I should like to emphasize the fact that there is a pathologic condition which might justly be called pretuberculous laryngitis. This ought to be treated with great care in every consumptive patient. Regarding the treatment of laryngeal tuberculosis we are nowadays fortunate enough to give great relief to by far the majority of these patients. Of these remedies which are so potent, I should like to mention: 1. The saccharated suprarenal gland for the induction of preliminary local anesthesia. 2. The menthol-orthoform emulsion for the production of a longer local anesthesia, and for its curative effects. 3. Olive, almond or sesame oil for the relief of the dysphagia. 4. Phototherapy. 5. Heroin for the relief of bronchial cough. Lactic acid ought to be dispensed with as antiquated and barbarous torture to the patients. Finally, I would like to say that here is a large field for further fruitful investigations in which every one ought to be interested; and the more we work in this field the more relief we shall give to our patients and the more cures we will effect.

DISCUSSION.

DR. EMIL MAYER, New York City—I would like to endorse the use of orthoform for this particular condition, and would call attention to the preparation with the white of the egg, for which I believe Dr. Freudenthal is responsible; that makes a very stable preparation and one that is valuable. I have found orthoform mixes very well with some of the liquid vaselin preparations, such as benzonol, and I have used that sometimes when the emulsion was not to be obtained. It may be said also that orthoform is not only of use for the painful deglutition that is associated with the tubercular trouble, but also in those conditions following operations. Nothing will give your patient so much comfort after a tonsillotomy as this emulsion.

DR. HOLBROOK CURTIS, New York City—One thing brought out was the use of the suprarenal extract. I reported, a few months ago, my first case, and I have now three using the extract for painful deglutition, and with most remarkable results. It has at the same time a most excellent effect on the edema. I have also used the suprarenal extract in quinsy and edema of the glottis with remarkable effect. I think it will prove of great value.

DR. RICHARDS—I would like to ask Dr. Freudenthal whether this solution can be sprayed through an atomizer.

DR. FREUDENTHAL—Not this solution; I use it with an ordinary laryngeal syringe.

DR. W. FREUDENTHAL—I am glad Dr. Mayer had the same experience as I did, and I shall try this solution in benzonol, which I think will be very good. I have not used this emulsion for tuberculous cases alone, but I have used it in syphilitic cases as well. In a case that came to me recently I injected this solution for severe pain, and the patient experienced almost immediate relief. The effect on edema is very good, which is due largely to its action as an astringent.

TREATMENT OF ATROPHIC RHINITIS BY ELECTROLYSIS.

AND SOME EXPERIMENTS TO DETERMINE THE EFFICIENCY OF NEEDLES OF DIFFERENT METALS.*

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Atrophic rhinitis has been the bane of the rhinologist since the diseases of the nasal mucous membrane began to receive special attention. It is not at all surprising that the disease remained incurable during the time in which the diseases of the upper air-tract were treated by the ophthalmologist or otologist as a side issue to what he considered of more importance. Not only this, but most other diseases of the nasal cavities were considered incurable, not alone by the laity, but by the profession as well. This is hardly to be wondered at when we remember that the treatment of the different diseases of nasal cavities was much the same and consisted in the use of a spray and the application of a solution of nitrate of silver to the surface of the nasal mucous membrane or to such part of it as could be easily reached. The patients were given a spray to use at home, and I think that they accomplished as much by its use as was accomplished by the physician himself. These sprays were usually composed of varying combinations of alkalis, and each specialist had a formula of his own which he was only too apt to think was a specific. In the use of watery sprays the fact that the nose was made for the passage of air and not for water, seems to have been overlooked. That these sprays gave temporary relief, but did not cure, was at last recognized by all, and while it may be necessary for the physician to occasionally use a spray for cleansing purposes, I am inclined to think it is well for the patient to cleanse his own nose as a rule.

The medical sprayer, if you will allow the expression, did not cease to exist when he found that sprays did not

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.