

The injections may be superficial or deep, and in any portion of the larynx which may be the seat of invasion. Some judgment is necessary in determining the frequency of the injections; every third or fourth day will be often enough for most cases.

Details of this method may be found in the paper already alluded to, and published in the *New York Medical Journal* for March 30th, 1895. Compared to lactic acid, the oily solution of creasote has many advantages for submucous injection. Its use is not painful, no reaction is produced, and, in early cases, infiltrations and surface epithelial ulcers disappear after a few injections. Long standing hypertrophies may be arrested and much lessened in size, but as the cartilage is often implicated, it is doubtful if they ever resume their normal shape and appearance. In advanced cases where the tissues of the larynx are undergoing rapid necrosis, the patient is usually too weak for the use of the curette. The injection of creasote may then be used to separate sloughing tissue and to stimulate granulations; it at the same time may exert some anæsthetic properties.

*Topical applications.*—These should be astringent and antiseptic, and are chiefly of service in superficial ulceration and to arrest the hypersecretion of mucus. The drugs most frequently employed for these purposes are creasote, lactic acid, menthol and iodoform.

Creasote is used in one drachm to the ounce solutions of the oily combination already referred to. This may be used as a spray once a day, or applied by an applicator or the laryngeal syringe. During active treatment it is best to keep the trachea and larynx thoroughly bathed in the creasote solution. The castor oil is so tenacious that the solution containing it clings to the mucous surfaces for days after the applications are made.

Lactic acid, when used, should be rubbed into the surface of the ulcer.

Menthol, in oily solutions of 20 grains to the ounce, may be injected into the trachea and larynx with a syringe.

Iodoform is used in powder, or in a 15% ethereal solution.

*Conclusion.*—1. Every case of pulmonary tuberculosis should be carefully watched for laryn-

geal symptoms, and treatment begun as soon as they appear.

2. If expectoration is very profuse from the pulmonary infection, a spray of creasote should be used as a precautionary measure.

3. No case of laryngeal tuberculosis should be abandoned to cocaine and other temporary sedatives, until all the other methods at our disposal have been tried.

4. Infiltration and ulcerations of a tubercular nature heal under various treatments, and many cases may be arrested if seen early.

5. During active treatment, rest and nourishing diet should be insisted upon, and creasote given internally. Doses of six to ten drops administered by the stomach three times a day, seem to produce as much benefit as larger doses. One of the best methods of taking this drug is that suggested by Dr. Hance, viz.: giving the patient empty capsules, carbonate of bismuth and beechwood creasote, and allowing him to fill the capsules with bismuth and then drop in the creasote, when the cap, already filled with bismuth, is put on.

6. If the treatment has been successful in arresting the active process in the larynx, the patient should then be placed under the best climatic influences.

*Treatment of Tracheal Tuberculosis.*—This should be instituted early, otherwise the ulcerations will perforate the walls of the trachea, or the cartilages become implicated and constriction of the trachea follow. Oily solutions of creasote and menthol are the best remedies for this affection and should always be given by means of the automatic syringe.

The laryngeal canula will reach the upper part of the trachea, but for deeper injections a silk elastic catheter should be drawn over the canula. After passing this between the cords, the catheter is pushed over the canula down into the trachea, and the injection made at the same time. A silk thread is attached to the ring of the catheter, so that it cannot be lost in the trachea. It is better not to anæsthetize the parts with cocaine before using the injections. The tolerance established after a few injections is far more satisfactory than any anæsthesia, and is more readily attained if the anæsthesia is omitted.