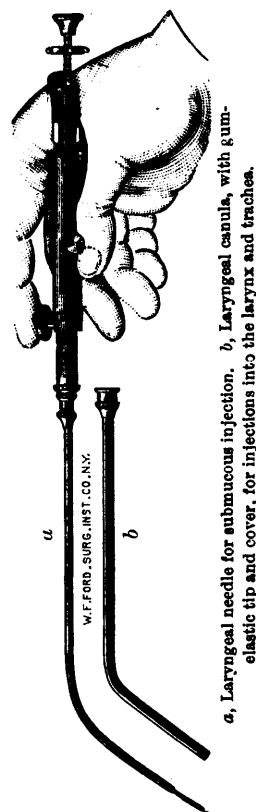


the deposits in mucous membranes take place primarily in the mucosa immediately beneath the superficial layers of epithelium. No amount of surface application can therefore reach them while the epithelium is intact. Krause, Herying, Gleitsmann, Magor, McSherry and several others, have strongly recommended the use of lactic acid by the submucous method. Krause began its use from its well-known property in lupus, of selecting the affected tissues for action. It certainly is of benefit in some cases and may be employed in solutions of 10 %, gradually increasing to 80 %. There is always considerable pain following its use, and the oedema which may result is sometimes serious. Dr. Gleitsmann of New York, has recently had a case of this nature. Many of the failures of the submucous method of treatment have, in the opinion of the writer, been due to the imperfect and inaccurate methods employed. The injections have been given by means of a long needle with a laryngeal curve, attached to an ordinary hypodermic barrel. It is easy to imagine the difficulty which may be experienced by the most skilful manipulator, in introducing the point of an unguarded needle to an exact depth, when the hand must be ten or twelve inches from the field of injection.

Even supposing this were possible, the unsteady muscular movements of this region would require so much pressure to keep the needle in position, that the injection must often be made very deeply, and probably below the tubercular invasion. Pushing down the piston would also have the same effect or it may disengage the needle, and the fluid will then simply drop into the larynx or the trachea. To obviate these drawbacks to submucous injections, the writer, in a paper read before the New York Academy of Medicine in February last, has described an automatic syringe, which perfects this method of treatment.

The syringe and needle, which I now present to you, have the point of the latter guarded by a piece of solid rubber ligature, which may be shortened or lengthened according to the required depth of the injection. The rubber guard allows of good firm pressure, without altering the gauged depth of the needle; the suction of the rubber prevents the injection from welling up

around the needle. The piston is arranged to regulate the amount of the injection and also to make it automatic. The latter is important, as no movement of the hand is necessary; consequently the patient is not made to gag, and the field of injection can always be kept in view. The spring in the barrel is stronger than necessary for submucous work, but for injections into the trachea a stiff spring is needed. It is



an easy matter to throw the fluid to the bifurcation of the trachea with this syringe. During the past two years the writer has employed an oily solution of creasote as a submucous injection for the hypertrophies, infiltrations, and large ulcers of tubercular laryngitis.

The solution best suited to this purpose is:—

R—Creasote (beechwood),	}	. āā 3 ij.
Olei gaultheri,		
Olei hydrocarbon,		
Olei ricini,		3 iij.—M.

This makes a clear, non-irritating solution, of pleasant odor and taste, a sample of which I will pass around.