

ANALGESIA OF THE LARYNX BY ALCOHOL INJECTION OF THE INTERNAL BRANCH OF THE SUPERIOR LARYNGEAL NERVE.

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A practical method for the relief of the atrocious pains in some cases of tuberculosis of the larynx has long been desired; yet alcohol injection of the sensory nerve does not seem to have attracted the attention in this country that I believe it deserves. In fact, as far as I can learn, its application has not been reported here.

In October, 1908, while acting as assistant in the clinic of Dr. Sturman of Berlin, and not knowing at that time of its prior application by Dr. Rudolf Hoffman (*Muench. Med. Wchnschr.*, No. 14, 1908), I suggested a trial of this procedure, which was later successfully performed. The patient was, I believe, subsequently shown by Dr. Sturman before the Berliner Laryngologischer Gesellschaft, February 19, 1909. I now desire to report two additional cases:

R. P., aged 35, patient of Dr. Maximilian Meinhardt and Dr. Theodore Sachs: Diagnosis—tuberculosis of the lungs and of the spine of several years' standing; infiltration of left arytenoid region, aryepiglottic fold and left half of epiglottis, at the inner lower surface of which was a group of tubercles of which the visible area was about one-fourth inch in diameter. The potassium iodide therapeutic test was without result. Since about seven months, patient has had pain in the left side of the throat which he has borne with fortitude until about a week ago, when it became very severe. December 2, at the request of Dr. Meinhardt, I injected into the internal branch of the left superior laryngeal nerve, 12 minims of 1 per cent cocain in 75 per cent alcohol. After the usual pain due to the injection ceased, the patient was free from pain and has so remained until to-day (December 27), when he reported for another examination. Cough no better.

C. A., aged 45, excessive user of alcoholic liquor and tobacco for many years: Diagnosis—advanced tuberculosis of lungs; infiltration of epiglottis, aryepiglottic folds, ventricular bands and particularly of the interarytenoid and arytenoid region. No ulceration visible. Pain in the middle of the throat, radiating toward left

ear. The pain, together with the mechanical obstruction offered by the swollen posterior wall of the larynx almost prevented swallowing. Could take only a small sip of milk at a time; no solids; "nearly strangled trying to take a swallow of milk punch last Sunday." December 16, I injected 25 minims 75 per cent alcohol (without cocain), into the internal branch of the left superior laryngeal nerve. As soon as the usual pain due to the injection had subsided, patient drank balance of the alcohol to which I had added three parts of water (equal to about 1 ounce of 20 per cent alcohol), and said it was the first comfortable swallow he had had in two weeks. December 19, he reports no return of pain; sensation of lump in throat remains; cough much less and sleep consequently better. He feels the touch of the probe on the left side of the larynx, but less acutely than on the right.

The injection is made directly through the skin of the neck. The technic is comparatively simple. I will omit discussion of the anatomy. From $\frac{1}{2}$ to 2 cc. of 75 per cent alcohol (with or without 1 per cent cocain), warmed a little above body temperature, is injected at a sitting. The patient's head is inclined to the side opposite the one to be injected; the skin, previously shaved if necessary, is cleansed with alcohol; the operator's left hand grasps the larynx to steady it and hold it prominently under the skin of the side to be injected, in such a way that the thumb is on the uninjected side while the left index-finger seeks the comparatively tender point where the internal branch of the superior laryngeal nerve penetrates the thyro-hyoid membrane, a point about half-way between the upper border of the thyroid cartilage and the hyoid bone, and about a centimeter in front of (mesially from) the superior cornu of the thyroid cartilage. The index-finger is held firmly in place while the needle is inserted at the point marked by the center of the nail to a depth of 1 to $1\frac{1}{2}$ cm. perpendicularly to the surface. If the nerve has been accurately located this insertion will cause a pain radiating characteristically toward the ear. However, the injection may be made in this locality drop by drop (after the pain caused by the insertion subsides) until the original pain ceases or until the full amount (2cc.) is used. The injection may be repeated next day if necessary. In my cases there was no loss of the cough reflex or aspiration of food, which could be taken with comfort following the injection. I have had no experience with the simultaneous injection of both sides, but as the operation does not seem to cause complete anesthesia, I believe this can be done if nec-

essary. An ordinary hypodermic syringe may be used, but a special obturator needle is perhaps preferable. No after-treatment is required. The puncture may be sealed with collodion if desired.

The entire subject of laryngeal anesthesia, its indications and benefits in tubercular conditions, with a complete bibliography, reports of five of his cases in which the above procedure was applied this year, and a description of his technic and that of Dr. Rudolf Hoffman, by Dr. O. Levinstein, of Berlin, appears in the *Arch. f. Laryngol.*, Bd. 23, Heft 2, 1910. Hoffman and Levinstein both use 85 per cent alcohol at 45° C., without cocain.

Some failures will, of course, be encountered owing to the varying location of the branching of the nerve and to the pathologic alteration of anatomic relations. I believe the procedure is a great boon, and I should like to see it more generally applied in appropriate cases, and want to hear from other physicians of their experience with it. I have not as yet tried it in carcinoma or other affections associated with pain other than tuberculosis.

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Primary Streptococcus Diphtheria. DAVID H. ORGEL, *Med. Record*, Aug. 13, 1910.

The author bases his conclusions on a series of 100 cases in private practice. About 80 per cent of these cases have been mild or moderately severe in type. In the other 20 per cent the disease was complicated with severe glandular enlargement, with suppuration and acute exudative nephritis. The diagnosis was made from the result of the microscopical examination of the cultures from the membrane. Local treatment seemed to be of most value. Anti-streptococcus and diphtheritic serum did not have much effect. Toilet of the mouth and throat acted beneficially—salt solution was used—spraying the throat with peroxide of hydrogen and applying an ice-bag to the neck were of value.

Complications of acute exudative nephritis occurs in all severe cases, and in some becomes chronic. Primary streptococcus diphtheria occurs oftener than we have been led to believe.

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