

A PLEA FOR THE ELECTRO-CAUTERY IN THE TREATMENT OF LARYNGEAL TUBERCULOSIS.*

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Most laryngologists can readily recall the time when the presentation of a case of healed tuberculosis of the larynx was recognized as an unusual, an unexpected and an important event. Despite our increasing knowledge of tuberculosis in general, we were comparatively helpless when the larynx became involved.

The various methods of treatment employed, including sprays, inhalations, intra-laryngeal injections, the application of lactic acid or of formalin, combined with the open air, the rest and silence cures together yielded but a small and discouraging number of cures.

Neither surgical procedures such as curettage, according to the method of Heryng, nor medical measures such as the employment of tuberculin materially brightened the outlook. As a general rule the prognosis for the victim of laryngeal tuberculosis was very unfavorable, and when progressive ulcerations ensued, about all that could be done, was to attempt to alleviate the suffering of the patient.

The meager results obtained from all the methods of treatment enumerated above gave rise to such a gloomy outlook in both lay and professional minds, that the value and importance of the electro-cautery treatment as announced in the epoch-marking monographs of Mermod,¹ and of Grünwald,²⁻³ failed to be generally accepted or appreciated. As I shall endeavor to prove in this paper these original claims for the curative value of the cautery have since been confirmed by many competent observers. Nevertheless, despite these favorable reports even at the present time the importance of the cautery treatment is certainly not recognized by the medical profession in general, and even among laryngologists its use is too frequently neglected.

I cannot but agree with Ruedi⁴, when he says, "That many physicians on general principles still neglect the operative treatment of laryngeal tuberculosis can only be due to ignorance of the actual facts. There is no complete parallel between the course of pulmonary tuberculosis and a complicating laryngeal tuberculosis." He adds, "I have seen many cases in which, despite marked improvement in the lungs and despite prolonged conservative treat-

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ment of the larynx, the laryngeal condition stubbornly persisted until operative measures, (usually cautery) were employed a few times, when a prompt and permanent cure resulted."

Clinical Evidence: Let us briefly review the basis for such a positive statement. In a period of six years (1908-1914), Ruedi of Davos treated 575 cases of laryngeal tuberculosis principally with the cautery, sometimes with the curette, or curette and cautery. Of these 575 patients he was able to check up 387 cases; 139 cases, or 35.9 per cent remained healed after a period of from three months up to five years from the time of the last treatment. The operative treatment brought about a cure in more than one-third of the cases. The best results, 52 per cent of cures were obtained in the electro-caustic of vocal cord tuberculosis. The only possible criticism of these figures is that the control period was too short in some cases, but a perusal of Ruedi's article is most convincing.

Ruedi employed the method of Mermod and Siebenmann,⁵ which differs from the ignipuncture of Grünwald inasmuch as they endeavor to remove or destroy the greater part of the tubercular lesions at one operation. In his original communication Mermod tabulated the following interesting results concerning some 280 cases treated with curette and cautery. Of these, 60 had remained well for at least one year; 40 cases for two years, and 17 cases over three years, i. e., about 40 per cent of cures with a one year minimum period.

Kreig⁶ claims to have cured 60 out of some 200 cases; 29 of which remained well for a period of from one to nine years. Siebenmann's and Benni's⁷ statistics are perhaps the most reliable and convincing. Of 65 cases treated with the cautery it was possible to check up 17 cases one year and over, following the last treatment. Eleven of these controlled cases, or 65 per cent had remained well, while 6, or 35 per cent showed recurrences. The number of demonstrable cures (11) out of the entire number treated (controlled and uncontrolled) equals 16.6 per cent. In this country favorable reports are given by Freudenthal⁸ and by Pettit⁹ of New York.

Levy,¹⁰ of Denver, makes the following statement: "Among the local curative agents as well as palliative measures, none has been so highly praised within the last few years as the galvanocautery and although it is still unrecognized by many it must be accepted at present as one of the most satisfying. . . . If the experiments are accepted, its value will be beyond that of anything else that we have at our command."

Experimental evidence: The question naturally arises as to how the cautery acts, that is, what is its effect on the tuberculous larynx? How is the healing process brought about? In the experiments of Albrecht¹¹ and those of Wood¹² will be found an answer to these questions. Albrecht inoculated the larynges of rabbits with tubercle bacilli of human origin. The lesions which developed were later treated with the cautery and finally the animals were killed at varying intervals after the cauterization, and the larynges examined histologically.

The illustrations show that apart from the local tissue-death caused by the cautery, an inflammatory reaction takes place in the tissues remote from the actual cauterization. This reaction finally takes on the form of a fibrosis tending to enclose and limit the tuberculous process. In other words, the cautery transforms an indolent, avascular, tuberculous lesion into an active vascular process with a final tendency toward enclosure by hyaline connective tissue, simulating the scar-tissue formation in the spontaneous cure of tuberculosis. The cautery experiments of Wood, performed on the inoculated skins of rabbits yielded strikingly similar results. With your indulgence I should like to throw reproductions of Albrecht's slides upon the screen.

Selection of cases: Cases for cautery treatment should be carefully selected. The general condition as well as the laryngeal lesions should be considered. Patients in the early stages of pulmonary tuberculosis running a slow course with but little fever are the best subjects. Patients showing rapid lung destruction, marked fever and frequent hemorrhages and severe cough should be excluded from the cautery treatment until these symptoms tend to subside. Occasionally, however, cauterization of the larynx will check the cough, or relieve dysphagia and thereby improve the general condition of the patient. As regards the larynx itself, beginning ulcers should certainly be burned away and infiltrates as a rule should be punctured with the cautery, if they are not too extensive. Diffuse and numerous lesions call for judgment on the part of the physician. Vocal cord lesions offer the best prognosis, while interarytenoid tuberculosis is more difficult to eradicate.

The epiglottis, when involved should generally be amputated, as advocated by Lockard¹³, and in addition the stump should be cauterized. Occasionally curettage should be combined with cauterization.

Technic: Most writers on this subject have operated by the indirect method, and have found it satisfactory. My own experi-

ence has been almost exclusively with suspension laryngoscopy, which I have carried out under (scopolamin-morphin) cocain anesthesia with very satisfactory results. In my judgment the suspension method, since it enables more accurate work will materially increase the results obtained from the galvano-cautery.

Following the application of the cautery, patients should have hospital care for a few days in order to control any edema which may ensue. Dangerous edema need seldom be feared (about once in 30 cases. Benni—op. cit.), and may usually be avoided by limiting the cauterization to one side of the larynx. An ice bag to the neck and ice pills are indicated to prevent edema and diminish pain after the operation. Orthoform insufflations may also be prescribed.

In my opinion enforced silence on the part of the patient loses much of its importance after the cautery treatment since a local reaction in the larynx constitutes an essential part of this form of therapy.

The physician should no longer sit with folded hands and observe the course of the disease, but in all suitable cases the patients should be given the benefit of electro-cautery treatment. When this is done laryngeal tuberculosis will lose some of its terrors, and a much more favorable prognosis than is usually given will be justified.

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