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# The Treatment of Cystic Goitre by Electrolysis.

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BY  
E. FLETCHER INGALS, M.D.,  
OF CHICAGO.

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*Read in the Section of Laryngology and Otology at the Fortieth Annual Meeting of the American Medical Association, held at Newport, June, 1889.*

*presented by the author*

Reprinted from the "Journal of the American Medical Association," February 15, 1890.



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## THE TREATMENT OF CYSTIC GOITRE BY ELECTROLYSIS.

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In a recent paper upon the treatment of cystic goitre,<sup>1</sup> Thomas M. Hovell, F.R.C.S.E., recommends Sir Morell Mackenzie's method, a description of which was first published in 1872.<sup>2</sup> He compares this plan of treatment with the methods advised by the authors of the leading English and American works on surgery, and unless he is too enthusiastic in his support of Mackenzie's treatment, it is a matter of surprise that a method so efficient and safe should have been nearly ignored by eminent surgeons, while operations of doubtful utility and much hazard have been given the preference. In Holmes' System of Surgery, 1883, Mackenzie's method is recommended as the best. However, Mr. Bryant<sup>3</sup> apparently gives preference to simple tapping of the cyst, or injections of an alcoholic solution of iodine or of the perchloride of iron. In cysts of the isthmus he recommends incision into the cavity as a good and successful operation. With these recommendations Mr. Hovell takes issue on the ground that tapping is very rarely successful and that the irritating injections tend to cause inflammation, which may be excessive, without providing for checking of hæmorrhage when iodine is used, or for the escape of pus in either case.

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<sup>1</sup> Wood's Med. and Surg. Monographs.

<sup>2</sup> London Lancet, May 11, 1872.

<sup>3</sup> Practice of Surgery, 1884.

Mr. Bryant's recommendation for incision of a cyst of the isthmus, or free incision of any cyst as soon as it has suppurated, is objected to as being unnecessarily severe and dangerous.

Mr. Erichsen<sup>4</sup> recommends tapping, or injection of tincture of iodine, and refers briefly to Mackenzie's method.

The late Prof. Gross<sup>5</sup> enumerates six methods of treatment of cystic goitre, viz: the seaton, puncture, injections of iodine, incision, excision, and electrolysis, and states that all are more or less serviceable but not free from danger.

Mr. Hovell agrees with Mr. Bryant that the treatment by seaton is dangerous, and cites Billroth, who twelve years ago spoke unfavorably of incisions, but reported thirty-five cases treated by injections of iodine, with twenty-nine cures and one death. Billroth had operated eleven times by von Brun's method, *i. e.* incision of the sac and stitching its walls to the skin, but of these three had died.

Mr. Hovell considers excision a very serious operation; thus from his comparison it appears that Sir Morell Mackenzie's operation is far superior to any other; however, he does not consider electrolysis. Without informing us as to the actual results of Mackenzie's method, except in two cases treated by himself, he leads us to infer that it is practically free from danger and may be expected to cure the case in from three weeks to four months, and that in the majority of cases the duration of treatment will not exceed eight weeks.

Sir Morell Mackenzie's treatment consists in tapping the cyst with a trochar, the canula of which corresponds in size to a 7, 8 or 9 English

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<sup>4</sup> Science of Surgery, 1884.

<sup>5</sup> System of Surgery, 1882.

catheter. After the contents have escaped, he injects into the cyst a solution of perchloride of iron (ʒij. to aq. ʒj.), which is allowed to remain three days, the canula having been corked and kept in position by a tape passed about the neck. At the end of this time the plug is removed, and if suppuration has taken place the cavity is treated like a chronic abscess; but if suppuration has not occurred the injection is repeated and managed as before. After suppuration takes place poultices are applied and the cavity washed out through the canula several times a day with some antiseptic solution.

This method seems to have been followed by most excellent results, but my personal experience with electrolysis, in two cases, leads me to believe that it sometimes cures more rapidly than, and is at the same time devoid of many of the inconveniences of, the treatment just described.

*Case 1.*—Mrs. S. consulted me in 1884 on account of a cystic goitre of the right lobe, which I found to be an inch and a half in diameter. I aspirated this two or three times and drew off at at each about an ounce of dark, thin blood or bloody serum. This would be immediately followed by the escape of clear, red blood if the aspiration was not at once discontinued. About one-third of the tumor was found to be of a solid character. Finally I introduced an electrolysis needle into the sac, and placing the opposite pole over the tumor, passed through it for about ten minutes an electric current from six to ten La Blanché cells. This operation was repeated three or four times, when the sac was found not to refill. About three years afterward I found the parts in the same condition. The solid portion of the tumor remained but had not increased

in size, and the cystic portion had been entirely cured.

*Case 2.*—G. L. J., cystic goitre of several years' duration. Patient came to me in the middle of January, 1889, with a history of having had the cyst tapped and injected with iodine and other substances several times during the past two years; also of having had it laid open, and of having worn a seaton in it for several months. I found a cyst in the right lobe of the thyroid gland about two and one-half inches in diameter, which was found to contain three ounces of thin, dark blood. I aspirated the cyst and injected it with carbolic acid several times, as follows:

January 19— $\text{ʒss}$  of 5 per cent. aqueous solution, which was drawn off and followed by  $\text{ʒj}$  of a 20 per cent. solution in glycerine.

January 26— $\text{ʒxl}$  of a 30 per cent. sol. in glycerine.

February 2— $\text{ʒxxx}$  of a 30 per cent. sol. in glycerine.

February 9— $\text{ʒxxx}$  of a 60 per cent. sol. in glycerine.

February 16— $\text{ʒxv}$  of the 95 per cent. acid, full strength.

The treatment proved of little or no benefit, for on the 23d of February I found the cyst about the same size as at the beginning. I then introduced two platinum needles into the cyst about an inch and a half apart, and passed through them for twenty minutes the current from four diamond carbon cells (similar to La Blanché).

March 2—Cyst much smaller; repeated the treatment.

March 9—Cyst still smaller; repeated the treatment.

March 16—Repeated the electrolysis in the

solid portion of the tumor, the cyst being imperceptible.

March 23—Cyst has not reappeared, and is believed to have been cured.

Thus the cyst that had resisted for many months various other forms of treatment, was completely eradicated by electrolysis in less than four weeks. The strength of the current employed was regulated by the patient's ability to stand the pain it caused. A month later, when the patient was last seen, he continued well.

Throughout the treatment I was assisted by Dr. J. E. Rhodes.

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