

treatment (the use of thyroid extract, for example) decreases the enlarged gland and improves the bad results which come from the absence of it, such as myxœdema. Another corroboration, probably, is the well known fact that cretinism is found in connection with both hypertrophy and atrophy of the gland.

Eulenberg thinks that the constitutional symptoms of exophthalmic goitre may be the direct toxic effects of absorption into the veins of the increased altered secretion of the follicles, which produces chemical changes in the constitution of the blood. If this theory is correct, the nervous origin of exophthalmic goitre must be discarded. That it is tenable is shown by the fact that nearly the same symptoms are produced by the artificial introduction of thyroid secretion in excess. But these theories in regard to the etiology of the pathological changes of the thyroid gland are somewhat speculative as yet, and require further investigation and confirmation.

The treatment of troubles of the thyroid has lately received considerable impetus. We might divide it into medical, electrical and operative.

*Medical.*—The medical treatment is by the internal administration of suggested remedies, such as iodide of potash, fluoric acid, thyroid extract, etc., and locally, by the introduction in the substance of the gland of iodine, iodoform, etc. Everyone is familiar with the iodine treatment. It is the oldest and has held its ground longer than any other, with varying success. Probably 90 per cent. of follicular and fibro-cystic goitres are reduced in volume by this treatment, but few radical cures are recorded. Garé of Tübingen reports, however, very great success with the injection of iodoform, one part to seven of oil and ether. Kocher of Berne has used thyroid extract in twelve cases, all of which were improved, some cured. Bruns of Tübingen also tried feeding in twelve cases with fresh calf thyroid. Four or five cases were cured, and the others, with the exception of three, much improved.

*Electrical.*—Under this heading I would include three methods of using electricity. First, galvanizing, by passing the continuous current through the gland, both poles being on the tumor; second, by electrolysis; and third, by cataphoresis. With the use of the constant current I have had little or no experience. It has been suggested for the reduction of the different kinds of glandular enlargements, and has been used with varying success. Electrolysis I have used in follicular and fibrous goitre. The negative pole is generally passed into the growth and a current of ten milliampères is turned on and continued for about five or ten minutes. This can be repeated in from three days to a week, according to the amount of irritation set up, the strength of the current being increased until we can use as much as forty or

fifty milliampères. Gradually a reduction of the growth takes place under this treatment, and a number of cures are recorded as its result. It is of very little service, however, in cystic goitre, because we cannot get the effect of the negative pole in the alteration of the tissue of the growth as we do in the more solid tumors. It has been suggested to tap the cyst, wash it out, fill it to distension with chloride of sodium solution, and by this means receive the full effects. With electrolysis from four or five to a dozen or more sittings are required.

*Cataphoresis.*—The third method, that of cataphoresis or the introduction of remedies by the direction of the electric current, has been in my hands a very satisfactory treatment, particularly in follicular goitre. I can record two or three cases in the last eighteen months where I have had the most satisfactory results from the use of iodide of potash by this method. I use, attached to the positive pole, a metal disc, which is covered with wet chamois or cotton, upon which is packed as much powdered iodide of potash as it will hold. This is covered over with a thin pledget of wet cotton and applied to the growth. The negative pole is held in the hand, or applied to the back of the neck, or between the shoulder blades. I have seen very little notice of this method of treatment. The only case that I know of recorded was one reported by Dr. McGuire two or three years ago, in the *Virginia Medical Monthly*.

In the goitrous enlargement or bronchocele, which one observes in young people, young girls especially, about the time of puberty, I do not know any more satisfactory treatment. It is true that this form of bronchocele occasionally manifests itself only at the time, or during the period of menstruation, and very frequently gets well of itself. I am not, however, referring to this form, but to those cases of persistent enlargement of the gland, which not only is seen during the menstrual period, but is present more or less all the time until active measures are instituted for its relief. I have seen cases of follicular bronchocele that have become very large in women because no attention was paid to it in the stage where it would swell up and go down, as it were, on the theory that it would get well of itself. One of these was very large, and persisted for several years, and was cured by the application of iodide of potash by cataphoresis. This case I have already mentioned, and it is one known to most of you. I am satisfied that further investigation into this method of applying remedies will show it to be of great value. In regard to operation, I am satisfied that in cutting open the cysts, as I did in the case above recorded, that I was exposing this patient to as great danger as if I had removed part of the gland. This was evidenced by the symptoms that developed.