

internally. It is noteworthy that in myxedema, in which the thyroid gland is absent, that we have a train of symptoms opposed to those presented in exophthalmic goitre. This would indicate the thyroid gland as the main etiological factor in Graves' disease.

Mikulicz and Reinbach believe that the disease has its origin in the vaso-motor centres, but that the hypertrophy of the gland plays a prominent role by adding the phenomena of thyroidism to the other symptoms. This would explain the failure, in some cases, of thyroidectomy, which removes only one of the disturbing factors and still leaves untreated the nervous element, which, no doubt, is of considerable etiological importance.

If the disease is due to a combination of causes, partly nervous and partly thyroid in origin, then a combined thyroidectomy and sympathectomy would meet the indications.

The surgical procedures which have been proposed may be divided into two types: 1. Operations on the gland. 2. Operations on the cervical sympathetic nerve.

Belonging to the first type, many different methods have been adopted:

(a) Injection of iodine, iodized glycerine (Rehn), etc., into the gland. This method should be discarded on account of the danger of embolism, owing to the increased vascularity of the gland.

(b) Exothyropexy, recommended by Jaboulay, of Lyons. The operation consists of exposing the gland by free incisions over it, partly raising it from its bed, and leaving it exposed in the open wound, covered only by the dressings, to shrink and atrophy. This mode of treatment has never become popular, is slow and dangerous, and does not appeal to modern surgeons.

(c) Ligation of the thyroid arteries. This proceeding, which was recommended by Wolfier, for ordinary goitre, is advocated by Kocher for the exophthalmic variety. He usually ligates both superior and one of the inferior thyroid arteries, fearing post-operative myxedema, if all the nutrient vessels are tied. This operation may be combined with partial resection of the gland at the same time; or the gland may be dealt with at a subsequent period, especially in those cases where, after rest, the initial symptoms remain intense. The primary ligation of the arteries renders subsequent resection of the gland much easier, as the danger of hemorrhage is lessened. The superior thyroid arteries are easily reached,