

# Graves' Disease with Dissociation of Thyrotoxicosis and Ophthalmopathy\*

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THESE are two characteristic, yet distinct, categories of symptoms in Graves' disease—the thyrotoxic and the ophthalmic. There is abundant evidence, both clinical and experimental, that eye involvement is not the direct result of thyrotoxicosis. On the clinical side there are the facts: first, that thyrotoxicosis can exist without eye signs; and, second, that eye signs, characteristic in all respects of Graves' disease, can exist with little or no thyrotoxicosis. On the experimental side it has been shown by several investigators that exophthalmos can be produced in thyroidectomized animals by the administration of extracts of the anterior lobe of the pituitary.<sup>1,2</sup>

None the less, clinical experience shows that usually thyrotoxic and ophthalmic manifestations vary in parallel. That is to say, they appear more or less together, get worse together, improve together, or remain stationary together.

Furthermore, it can be said that in the usual, classic or orthodox case of Graves' disease, the thyrotoxicosis constitutes the major therapeutic problem. If it is relieved, the eyes will take care of themselves. No special treatment is needed for them.

There are cases of Graves' disease, however, in which ophthalmopathy and thyrotoxicosis vary independently or inversely. The thyrotoxicosis may be lessening, or gone, while the eyes are getting worse. There may be a progressive ophthalmopathy at a time when the patient is in a frankly hypothyroid phase. In some cases there seems to be no thyrotoxicosis at all, but an important ophthalmopathy.

Such cases, which in our experience constitute perhaps four per cent of all Graves' disease, are of peculiar interest both on the theoretical side, because they may broaden our understanding of the morbid mechanism involved in Graves' disease, and on the practical side, because the treatment in them should, we believe, be quite different from that in the classic form of the disease. In them the eyes, not the thyrotoxicosis, present the major therapeutic problem. We have come to look upon them as consti-

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