

## THE PARATHYROIDS.

The anatomy and functions of the parathyroids and their relations to the thyroid gland have been matters of keen interest to the surgeon of late years, and much experimentation has been carried out. But much remains still to be done before the riddle of these curious bodies shall be interpreted aright. First noted by Sandstrom in 1880 and described by Horsley in 1884, many experimenters have since labored to ascertain their functions. They found that the thyroid and parathyroids were separate and distinct entities; that while complete removal of the thyroid interfered with assimilation and metabolism producing a chronic condition known as myxoedema, on the other hand complete removal of the parathyroids induced a very acute state of tetany, somewhat resembling Graves' disease, and from which the patient usually succumbed. Roswell Park<sup>2</sup> thus sums up the knowledge so far conveyed to us by the experimenters:

"1. There are two quite different sets of tissues involved in the thyroid and parathyroids.

"2. They are not completely independent of each other, for the removal of either one caused changes in the others.

"3. There is reason to believe that myxoedema follows removal of the thyroid, and tremors and nervous symptoms, including tachycardia, result from extirpation of the parathyroids.

"4. It would appear, further, that failure of the parathyroids is followed by enlargement of the thyroid. If this be true, Graves' disease seems to be explained, since the former would account for the enlargement of the thyroid sometimes so conspicuous, while the increased secretion afforded by this enlargement will account for the exophthalmos."

This relation of the parathyroids to Graves' disease, however, would appear to be pretty thoroughly disproven by the careful dissections of Benjamins, MacCallum and others who found that the parathyroids were perfectly normal in cases of exophthalmic goitre examined and, therefore, could have nothing to do with the production of the disease. These little ductless glands which have received so much attention of late (and to the study of which I beg to direct the efforts of my younger scientific friends in the profession) are usually four in number—two upper and two lower—and, as a rule, lie behind the thyroid, often in the neighborhood of the entrance to the gland of the superior and inferior thyroid arteries, from which vessels they receive their blood supply. They have been found most frequently in the areolar tissue behind the gland, sometimes in contact with the gland capsule and rarely within the capsule embedded in the thyroid tissue itself. They are elliptical in shape and homogeneous in appearance and they are much softer in consistence than either thyroid or lymphatic tissue.<sup>3</sup>