

that the pituitary secretion has a remarkable influence on carbohydrate tolerance. Until a very recent date the hypophysis was believed to be a functionless structure. Cushing and his assistants, Crowe, Homans and Goetsch, have shown that complete hypophysectomy in animals is invariably fatal. Clinical observations and the knowledge acquired from surgical operations for diseases of the gland in man confirm these laboratory results. A thorough consideration of our knowledge of the influence of the gland on body growth, and the physiological action of pituitary extract, is beyond the scope of this paper. Consequently only those phases which have a more or less direct bearing on the subject under consideration can be dealt with.

A brief account of the anatomy of the gland will be of interest. Following the description of Herring, we speak of three divisions: the anterior lobe or *pars anterior*; the posterior lobe or *pars nervosa*; and the modified cellular structure derived from the anterior lobe, which surrounds the posterior lobe, and extends upwards along the stalk of the infundibulum—the *pars intermedia*. The anterior lobe is derived from the pharyngeal pouch described by Rathke in 1838, and is consequently of ectodermic origin. The gland is situated in the *sella turcica* and when normal is very small, its weight being 0.6 grams. The anterior lobe resembles the thyroid somewhat in structure. It is extremely vascular, the blood supply being derived most probably from branches of the carotids. The cells of the anterior lobe are classified according to their ability to take stains. Some are chromophile (either of the eosinophilic or basophilic variety) and the remainder chromophobe.

“In the *pars intermedia*, investing the posterior lobe, the cells are of a different type, without eosinophilic granules, and it is here chiefly that one finds a tubular or acinous distribution of cells which have a tendency to secrete colloid, resembling in appearance the secretion characteristic of the thyroid gland. These cells are seen, under certain circumstances, actually to invade the *pars nervosa*, into which the product of their secretion is directly discharged, whence, as Herring first pointed out, it seems to pass through tissue channels towards the infundibular cavity, to find its way ultimately between the ependymal cells into the cerebro-spinal cavity of the third ventricle.” (Cushing.)

The *pars nervosa* is composed of neuroglia and ependymal tissue, and serves probably to transmit the secretion of the *pars intermedia* and perhaps of the anterior lobe.

The researches of recent years have shown that pituitary extract possesses very powerful physiological properties. Oliver and