

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 Schafer showed that it caused marked increase in the blood pressure from action both on the peripheral blood vessels and the heart. It is a powerful diuretic. Both these properties are attributable to the posterior lobe. Injections of extract of the anterior lobe cause an increase in temperature. Over-activity of the anterior lobe leads to gigantism if this occurs during the period of an individual's growth, and acromegaly if it occurs only after the usual period of growth is over. Absence or disturbances of the secretion produce the so-called "Froehlich's syndrome," described by this writer in 1901, and to which he gave the name *dystrophia adiposogenitalis*. It is characterized by small stature, amenorrhea, infantile genitalia, hypotrichosis, and an excessive disposition of fat. Cushing and his associates have reproduced experimentally an exact counterpart of this condition in hypophysectomized puppies.

It is only within the last few months that it has been definitely demonstrated that the posterior lobe of the gland has a most powerful regulating influence on carbohydrate tolerance. Although Marie first described acromegaly in 1886, it was not until 1889 that he pointed out its association with pituitary enlargement. Since that date numerous observations have shown that carbohydrate metabolism is materially disturbed in acromeg: . . . Out of 176 cases of the disease reported in the literature up to 1908, Borchardt found that glycosuria occurred in 35.5 per cent. of the cases. He conceived the idea that this glycosuria might be the result of a perversion of the pituitary secretion. He proceeded to demonstrate this experimentally by injecting extract of hypophysis obtained from men and horses into dogs and rabbits. In dogs although after large doses of this extract glycosuria sometimes occurred, no uniform