

one. In 1895, Gley and Delezenne discovered the antithrombic and the antioaglant action of the liver. In the same year, Cybulski noted the influence of supra-renal venous blood on the vascular system. This was confirmed later by Langlois, Biedl and Dreyer. During the years 1902 and 1903 Wertheimer, Fleig, Enriquez and Hallion discovered secretion in the veins of the jejunum, and its presence in the systemic arterial blood. In 1911 and 1913 Hidon discovered an active hormone in the blood coming from the pancreas, which has the capacity of controlling the glycosuria resulting from the removal of the pancreas.

To these observations was soon to be added another important line of study. Brown-Sequard made use of his extract of testicle; and, in 1891, Murray treated successfully myxœdema by the administration of thyroid gland substance. It is now known that thyroid gland extract acts as a stimulus to respiratory and nitrogenous changes. It is also known to have a marked influence over the growth and development of the skeleton and the nervous system. In the study of the function of the thyroid gland and the influence of its extract yielded a very striking proof of the certainty of some internal secretion. The removal or destruction of the thyroid body gives rise to symptoms that are relieved by the exhibition of preparations from the gland. The same sort of evidence in support of an internal secretion by the supra-renal glands was forthcoming in 1894. In that year Oliver and Schäfer demonstrated the powerful influence over the vascular system which they discovered to lie in an extract obtained from the adrenals. It was found that the venous blood coming from these glands had the same effect as the extract obtained from their medullary substance. About the same time Takamine and Aldrich recovered from the venous blood of these glands adrenalin, their active principle. It must be borne in mind that a gland may not produce an active principle giving rise to the same symptoms as arise from the administration of an extract of the said gland. To prove that there is a common active agent it must be discovered in the gland and the venous blood emerging from it, as has been done in the case of the adrenals.

II. THE SUPRA-RENAL GLANDS.

These glands consist of two very distinct portions. The medullary portion makes up about 10 per cent. of the entire gland. It is composed of a very free venous plexus, in which are embedded the soft cells of the medulla. These cells secrete the adrenalin, and the richer they are in this active principle the darker is their color. These cells stain readily with chromate salts and hence are spoken of as chromaffine cells. The readiness with which these cells stain is a measure of their activity.