

and hypophysis are antagonistic in this respect, contrary to the synergic relation observed elsewhere. Neither the injection of pituitary nor of thyroid extract revealed any definite change in the effect of visceral stimulus upon the renal vessels. [J.]

**de Langen, C. D.** GASTRIC ULCER AND ITS PATHOGENY. [Med. Tydsk. v. Gen., Jan. 4, 1919.]

Gastric ulcer is here regarded as a localized vagotonia. Statistical studies by the author has tended to show that sympathicotonic states are especially frequent in the tropics. He has already written extensively upon this condition. Gastric ulcer is extremely rare, he believes, chiefly because of this factor and when found it is present with pronounced vagotonic types of individuals. A study of heat factors, indolence and other environmental conditions in the tropics from a psychogenic point of view might reveal some important deductions. The author touches upon these in his earlier paper. The facts observed apparently confirm the vagotonic origin of gastric ulcer.

**Alvarez, C.** GASTRIC ULCER AND OPERATIONS. [Semana Med., Jan. 9, 1919.]

This is a case of cure of a three-year-old gastric ulcer after a removal of an ulcerated lipoma of the cervical and dorsal region in a woman of 40 years. Since this Alvarez has operated on the sixth, seventh, eighth and ninth pair of sympathetic nerves with striking results in many gastric conditions. Ulcer, hyperchlorhydria, hypersecretion and spasmodic stenosis, even ectasia of the stomach, all showed prompt and permanent benefit from this indirect treatment of gastric ulcer by distance commotion. It has little if any effect on disturbances from organic stenosis; these cases call for a gastro-enterostomy. The benefit of the grand sympathetic confirms the assumption that nervous influences induce the disturbance in the stomach. By severing the vegetative nerve connection, the circulation returns to normal. Notwithstanding the persistence of a hyperchlorhydria, the ulcer does not return.

**Franke, M.** BEHAVIOR OF THE VEGETATIVE NERVOUS SYSTEM DURING MENSTRUATION. RELATION BETWEEN INTERNAL SECRETIONS AND MENSTRUATION. [Zschrt. f. kl. Med., Bd. 84, H. 1/2.]

The writer has tried to determine whether the changes occurring in the vegetative nervous system during menstruation are the cause of menstrual difficulties. During the inter-menstrual period only one case examined gave a negative reaction to both vagotonic and sympathicotonic poisons. The majority of cases showed a simultaneous reaction to pilocarpin and adrenalin, with the emphasis sometimes upon pilocarpin, sometimes upon adrenalin. Cases in which a reaction occurred

only to vagotonic or sympathicotonic agents were almost as rare as those which did not react at all. In all the cases examined the reaction to 0.001 gr. atropin was very slight and did not take place at all during the intermenstrual period. At the onset of menstruation the reaction changes absolutely. A pronounced increase in the reaction to pilocarpin was noted; it is at least one degree more pronounced than during the intermenstrual period. There is increased tendency to react to atropin in almost all cases. On the other hand the reaction to adrenalin appears to be weaker during the menses. A decrease in excretion of sugar under the influence of adrenalin was observed during menstruation in practically all the women examined, which would point to a diminution of the sympathicotonic condition during the menses. The writer concludes on the basis of his observations on the effect of pilocarpin, atropin and adrenalin upon menstruating women as compared to the intermenstrual period, that during the menses there is an increase in tonus of the nervus vagus, together with simultaneous decrease in tonus of the nervus sympathicus; on the basis of the general reactions produced by vagotonic and sympathicotonic agents, it may be stated that during the menses a condition arises, designated by Eppinger and Hess as vagotonic disposition or vagotonia, a condition in which there is a strong reaction to pilocarpin and atropin, no reaction or only slight reaction to adrenalin. This is a characteristic condition. The behavior of the stomach was of interest. In half the cases the total contents of the stomach was greater during the menses, and in seven cases the fluid contents of the stomach increased during menstruation. This increase in fluidity indicates, though it does not absolutely confirm, an increased fluid excretion in the stomach and a hypersecretio ventriculi. A comparison between the total acidity of the contents of the stomach during the intermenstrual period and during menstruation revealed an increase in acidity during menstruation, *i.e.*, a hyperaciditas menstrualis, in seven cases. The injection of pilocarpin resulted in an increase in stomach secretion and acidity during the menstrual period in half the cases. The writer's observations on the action of the stomach offer a further series of phenomena which support the theory of vagotonia or vagotonic disposition during the menses. There can be no question of the occurrence of eosinophilia or lymphemia during the menses. The fundamental cause of the disturbances occurring during the menses is an increased irritability of the nervus vagus during this period. A vagotonic condition appears which either disappears entirely or retreats when the menstrual period has elapsed. The cause of the menstrual disturbances can not be ascertained definitely. It is probably connected with a change in the glands of internal secretion. By means of the Abderhalden method it may perhaps be possible to prove that during the menses the function of the thyroid and probably of the thymus gland is increased and that the function of the supra-

renal gland is weakened, in support of which theory numerous phenomena have been noted. [J.]

## 2. ENDOCRINOPATHIES.

**Plummer, H. S.** CLASSIFICATION OF GOITERS. [Med. Section A. M. A. Med. Rec., June 21, 1919.]

He said that the normal thyroid developed from prenatal acini with epithelium, and a certain percentage contained fetal rests or cells capable under certain conditions of producing acini. The thyroid elaborated two products: thyroxin and colloid. Colloid was associated with the formation of the hormone, but played no part outside of the thyroid gland. Exophthalmic goiter was a distinct clinical entity sharply differentiated from other conditions of hyperthyroidism. The profession had been slow to accept this theory. The thyroxin was present in all the cells of the organism in quantum of potential energy on the oxidation of the cells, and the amount of energy transformation varied with the amount of thyroxin in the cells, being increased in hyper- and decreased with hypo-thyroidism. Five thousand cases had been studied at the Mayo Clinic with regard to metabolism rates. An average of 39 calories per hour per square meter of body surface was normal. In hypothyroidism, 35 per cent. below normal, 7-10 mg. thyroxin was required to maintain normal balance. Exhaustion of the hormone in normal individuals varied with total energy transformation, and could shift 100 per cent. in normal persons, the basal rate remaining constant. With a dose of thyroxin the basal rate rose, then later dropped back. Under ordinary conditions the thyroid need not eliminate its product. The increase of energy could be met in other ways, by increasing stimulation of the cells, or chemical changes as in the adrenals. In regard to structure, nearly normal glands were removed in mild cases. In the hypertrophic gland there was increase in colloid and number of acini, formation of new tissue with adenomatosis. All this might be found in the same gland. Stimulus of fetal rests resulted in colloid goiter. In adolescence there was often diffuse deposit of colloid and adenomata were often deeply embedded. Two forms were seen: nodular colloid goiter and colloid adenomata. These were clinically indistinguishable from adenomata and had the same clinical indications. Hypothyroidism was associated with low metabolic rates, sometimes it was seen with adenomatous goiter, in a milky form with constitutional states, and not often clinically recognized. Many cases diagnosed as hypo- were really hyper. Myxedematous individuals never gave history of goiter. In the hyper- cases, the extirpation of the adenoma brought the basal metabolism to normal in three weeks. In exophthalmic types there was probably some variation of the thyroid hormone from the normal. These cases were distinct from hyperthyroidism.