

The Effect of Febrile Diseases in Diabetes Mellitus.—BRASCH (*Deut. Archiv f. klin. Med.*, 1909, xcvii, 508) has studied the effect of intercurrent febrile diseases on the metabolism of diabetics and arrives at the following general conclusions: (1) Febrile diseases may increase or decrease the glycosuria in diabetes mellitus. (2) Mild cases of the disease usually show a decrease in the quantity of glucose, without subsequent ill effects. (3) Increase of glycosuria and the occurrence of acetonuria may be seen in severe cases of diabetes during febrile diseases; in some instances, however, no change in the excretion of sugar is noted during the course of the fever, but subsequently the patients rapidly decline. (4) The cause of the fever is of less moment than the severity of the diabetes.

Experimental Functional Mitral Insufficiency.—LIAN (*Archiv. des mal. du cœur, des vaisseaux, et du sang*, 1909, ii, 569) has studied experimentally in dogs the functional insufficiency of the auriculo-ventricular valves, which occurs shortly after the onset of asphyxia. The insufficiency dependent on asphyxia is the result of several factors; an increase of arterial pressure in both the greater and lesser circulations, the malnutrition of the heart from the poorly oxygenated blood, and the action of the pneumogastric nerve in slowing the heart rate, increasing the length of the diastole, and diminishing the tonicity of the myocardium. The tracings of the volume curve of the left auricle show that insufficiency begins synchronously with the onset of ventricular systoles. It disappears as soon as the animal is allowed to breathe normally, but may be brought on again by subsequent production of asphyxia. It was possible to cause insufficiency at intervals of several days in the same dog, there being in the meanwhile apparently complete recovery. In several instances functional insufficiency was produced without opening the thorax; it was accompanied by a well-marked systolic murmur localized at the apex. Neither stimulation of the pneumogastric, or sudden compression of the aorta usually cause insufficiency. The conditions which appear to be necessary to the production of functional insufficiency of the mitral valve are a diminution in the tonicity of the myocardium, and an overdistended left ventricle.

Blood Regeneration from Diminished Oxygen Tension.—KUHN and ALDENHOVEN (*Deut. med. Woch.*, 1909, xxxv, 1958) refer to the recent studies on regeneration of the blood, with increase in the total volume of the blood, following the use of the suction-mask (*Saugmaske*). The red count may be increased 1,000,000 to 3,000,000 cells per cubic millimeter by the daily use of the mask, and, indeed, the rise begins almost at once. There is a coincident, but slower, augmentation in hemoglobin. Exactly similar findings may be obtained in persons going from the sea level to high altitudes. Likewise, after dyspnea, polycythemia and increase in hemoglobin have been noted, lasting for some time. As experiments have shown, these results are not due to a loss of plasma (concentration of the blood); there is an actual increase in the total quantity of blood and of hemoglobin, and the bone marrow in the shafts of the long bones is red, rather than fatty. The cause of these phenomena is a lowered oxygen tension in the tissues. The rapid regeneration which follows hemorrhage is probably due to the

same cause. The response is extremely prompt, as Müller has shown. It is well known that the administration of arsenic leads to increase of the erythrocytes. Similarly it has been noted that the administration of tuberculin is often followed by an increase in the red cells. It is equally well known that arsenic is a hemolytic poison. Kuhn and Aldenhoven, therefore, have attempted to explain these facts by experiment. They made a series of observations in guinea-pigs to which atoxyl and tuberculin were administered, and found an initial fall in the blood count, followed by a rise, due, they believed, to a primary lessening of the oxygen tension from destruction of red cells; this resulted in stimulation of the bone marrow sufficient to produce a subsequent rise. To determine this point the experiments were repeated on a second series of animals which were kept in cages so constructed that the inspired air could be surcharged with oxygen. In all the animals there was now a steady decline in the number of red cells in the blood. They conclude that arsenic does not affect the bone marrow primarily, but that the stimulus to erythropoiesis is due to the lowered oxygen tension caused by destruction of red cells.

The Auriculo-nodal Junction.—In the study of the system of conduction fibers in the hearts of cats, rabbits, monkeys, dogs and goats, COHN (*Heart*, 1909, i, 167) has found that there is constantly present a connection between the fibers of the auriculoventricular node of Tawara and the muscle of the auricle. In the cat the fibers of the dorsal portion of the node become thicker and gradually pass into the auricular fibers. Sometimes two or three of the smaller fibers unite to form an auricular fiber. The number of nuclei in the muscle fibers decrease progressively in the passage from node to auricle, but the transverse striations, which are rarely seen in the nodal fibers, come out more clearly in the transition fibers, and become fully developed in the auricular fibers. In the monkey, at the point of passage from auricle to node the fibers become plumper, more nearly parallel, and the fibers of one become continuous with those of the other. The passage from auricle to node is so gradual that it is impossible to say where one begins and the other leaves off. In dogs, cats, and rabbits collections of ganglion cells were found close above the point of transition from auricle to node. In the monkey no nerves were found in or near the bundle or node, but many were seen in the interauricular system. The position of the A-v node was found to be variable. While it is usually found on the right side of the interauricular septum, it may be in the mid-line, or even nearer the left side. These variations are explained as due to embryological variations in the formation of the auriculoventricular groove at the membranous septum.

The Treatment of Amoebic Dysentery in the Canal Zone.—From 1905 to 1909 there were 211 patients treated for amoebic dysentery in the Ancon Hospital. In 82 of these various methods of treatment were used, including opiates, ipecac, castor oil, magnesium sulphate by mouth, and local irrigations of quinine, thymol, silver nitrate, starch, boric acid, tannic acid, etc. In this series the mortality was 39 per cent., and the average time in the hospital twenty-eight days. Another series of 129 cases was treated by what OEEKS and SHAW (*Medical Record*,