c.c. Serum heated at 56° in amounts of 0.2 c.c. The same results were obtained when horse serum and the serum of a rabbit immunized thereto were used as antigen and antibody.

Hence we may conclude that complement plays no role in the anaphylactic reaction. Inasmuch as complement is essential to the production of anaphylatoxin, this is equivalent to saying that anaphylatoxin plays no rôle in anaphylaxis.

24 (1088)

The isolation of a toxic substance from the blood of uremic patients.

By NELLIS B. FOSTER, M.D.

[*From the Department of Medicine, Cornell Medical College and the New York Hospital.*]

The analyses of bloods from cases of uremia have yielded a substance which is toxic. Control analyses of bloods from a wide variety of conditions not associated with uremia failed to discover a similar substance. Guinea-pigs were used as the test animal and enough material can be recovered from 200 c.c. of uremic blood to cause death. The isolation of the substance was effected by a combination of several methods in current use for the separation of animal bases.

25 (1089)

The possible association of diabetes mellitus and splenohepatomegaly, Goucher; report of a case.

By J. R. WILLIAMS and M. DRESBACH.

[*From the Department of Physiology, Cornell Medical College, Ithaca, N. Y.*]

The following case, which we have recently had under observation, is of clinical and scientific interest because of the evidence it presents of the coexistence of diabetes mellitus and splenohepatomegaly, Goucher.

The history, in brief, is as follows: Patient, male, single;

age 28; civil engineer. Family history negative. Patient had no important antecedent illnesses. Physical examination revealed no associated disease of any organs. Blood was practically normal in the beginning, but showed numerical increase in large lymphocytes and decrease in small lymphocytes as the disease advanced. Polynuclear leucocytes showed no suggestive changes.

Patient died in diabetic coma about two and one half years after illness began. There was nothing unusual in the general course of the disease. It progressed in spite of all efforts to combat it. One thing deserves noting, namely, that fat was metabolized poorly, the acidosis increasing whenever the fat in the diet was increased to offset the loss in body weight.

Post-mortem Examination.—The body was embalmed with a fluid containing about 8 per cent. of formalin one hour after death, and the tissues were fixed in formalin, Zenker's fluid and osmic acid twelve hours later.

There was some enlargement of the spleen, its size being 13 × 10.5 × 6 cm. and the weight 338 gm. The enlargement was only slight, therefore. Other organs appeared normal. Microscopically, the kidneys and adrenals were normal. The pancreas showed no general structural change except slight atrophy of the acinal tissue. The islets were normal, though there was some tendency towards hypertrophy. The capillary walls were somewhat thickened. There was no hyaline change in the islet epithelium. The spleen was extensively invaded by large round and oval cells of the endothelial type of Goucher. These cells were especially abundant in the pulp. Mesenteric lymph glands and liver showed the same type of foreign cells, but they were not so numerous as in the spleen. The liver was normal except as mentioned, though there was some vacuolization of the liver cells. The foreign endothelial cells were found only in the blood capillaries of the lobules. Pigmentation of the lymph glands was absent. Unfortunately, we did not examine the bone marrow, as we did not suspect this complication.

We believe that the findings in this case warrant the conclusion that splenohepatomegaly existed. This condition is now thought to be connected in some way with faulty fat metabolism. The etiology, like that of diabetes, is obscure. Whether there was

any causal relation between the two pathological processes exemplified in this instance is a point upon which we have insufficient data for a positive statement.

A more detailed account of the case will be published later.

26 (1090)

Equilibrium in the precipitation reaction.

By RICHARD WEIL.

[*From the Department of Experimental Medicine of Cornell University Medical College.*]

On the basis of experiments performed with horse serum, and similar antigenic substances, it has long been held that precipitation produced by antigen and antibody never goes on to completion, but that both factors are always present in the supernatant fluid. This has been explained by some as an instance of the law of mass action, by others on the basis of certain analogies of colloidal chemistry.

If a pure substance, such as crystalline egg albumen, separated by Hopkins's method, be used as antigen, the results are quite different. When mixed in proper proportions with its antiserum a precipitate is formed; the supernatant fluid never contains both reactive substances. The results hitherto obtained are due, therefore, to a fallacy of technique, and are traceable to the presence of multiple individual antigens in the antigenic substance employed, with a corresponding multiplicity of antibodies in the antiserum.

27 (1091)

Equilibrium in the dissociation of precipitates.

By RICHARD WEIL.

[*From the Department of Experimental Medicine of Cornell University Medical College.*]

Chickering found that sodium carbonate extracts of a precipitate, produced by a mixture of pneumococcus substance and its antiserum, contained agglutinating and protective antibody, but