

2. The hyaline phase in which the globular component is localized in a small area of the extremely hyaline cytoplasm.

3. The fine pseudopodial phase which is characterized by the protrusion of fine long motionless protoplasmic processes.

4. The ciliated phase of the white blood cell shows numerous beating cilium-like processes.

5. The flagellated phase is distinguished by the presence of numerous long protoplasmic processes which exhibit the rapid undulatory movement characteristic of flagella.

Notable redistribution phenomena have been observed in erythrocytes of both warm- and cold-blooded vertebrates as well as the formation of either cilium-like or flagellum-like processes. White blood cells or erythrocytes which have numerous rapidly moving protoplasmic processes may be actually free-swimming.

Similar structural transformations have been observed in myelocytes, "pyrrhol" cells, and in cells from inflammatory exudates.

The rôle of structural transformations of white blood cells in phagocytosis has been investigated with interesting results.

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Colloidal nitrogen in diabetes.

By **GEORGE B. WALLACE.**

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The so-called colloidal nitrogen fraction of the urine has normally a fairly constant relationship to the total nitrogen, forming from 1 to 4.5 per cent. of the latter. In a number of pathological conditions, the percentage may be greatly increased, rising in some instances to 35 per cent. In a study of this subject by Pribram and collaborators, it was found that in severe diabetes, among other diseases, the percentage of colloidal nitrogen was especially high. Pribram interprets this as an evidence of abnormal or lessened liver function and associates it with the occurrence of diabetic coma.

I have determined the colloidal nitrogen fraction in two cases

of diabetes. The first was in diabetic coma, which had a fatal outcome. The analysis of the urine collected on the second day of coma gave the following figures: Total nitrogen, 7.78 g.; colloidal nitrogen, 0.22 g. The colloidal nitrogen fraction was 2.87 per cent. of the total nitrogen, a normal relationship.

The second case was one of moderately severe diabetes, with a moderate degree of acetonuria and glycosuria. One analysis gave: Total nitrogen, 14.84 g.; colloidal nitrogen, 0.91 g. The colloidal nitrogen was 6.2 per cent. of the total nitrogen.

An analysis made ten days later on the urine of this patient showed: Total nitrogen, 17.9 g.; colloidal nitrogen, 0.43 g.; colloidal nitrogen = 2.4 per cent. of total nitrogen.

According to these figures, which agree with some reported by Wolf and Marriott, there appears to be no definite relationship between the severity of diabetes and the urinary colloidal nitrogen percentage. It is quite possible, however, that the colloidal substance may fail to be increased in the urine because of faulty kidney elimination and that the blood content may be considerably above the normal without the urine showing any evidence of this.

71 (888)

A depressor substance in fecal extracts.

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In the course of a study on the relationship of certain symptoms to intestinal disturbances we prepared a ten per cent. watery extract of dried feces and injected 3 c.c. of this intravenously into a dog. The injection was followed by a sudden, sharp fall in blood pressure, with a return to normal level within five minutes. Subsequent injections into the same animal produced a similar fall only when the dose was markedly increased. Extracts of both dried and fresh feces from various individuals have been prepared and produce similar results on injection. The fall in pressure may reach seventy per cent. With the fall there is seen some quickening in heart rate and at times an irregularity in rhythm.