

suckle at least 30 c.c. at ten feedings. This is an amount that the breast does not secrete, at least until the fourth day. Feeding the newborn infants for the first three days, in addition to the breast secretion, a formula of about the same composition as colostrum would appear to be a logical proceeding not only to fulfill the energy requirement but also to supply the water lost.

Even after the breasts are secreting a considerable quantity of milk it would seem to be rational to feed these babies as often as every two or two and one half hours during the day or eight or nine feedings in all.

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The influence of phenylquinolin carbonic acid (atophan) and of radium emanation upon the uric acid concentration of the blood.

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The prompt and marked increase in the uric acid output following the administration of 2-phenylquinolin-4-carbonic acid (atophan) has been repeatedly demonstrated. More recently, Folin and Lyman¹ reported a concomitant diminution in the uric acid concentration of the blood, which suggested an increased renal permeability as an important factor in the physiological action of atophan.

In the course of our studies with atophan, begun more than a year ago, we have endeavored to ascertain, (1) the promptness with which the decrease in blood uric acid is brought about; (2) the minimum to which it can be reduced; and (3) the rapidity with which the initial concentration is regained after the administration of atophan has ceased.

We have observed a marked decrease in the uric acid concentration of the blood after a two day period with atophan; and are attempting to determine more exactly the speed of this reaction.

¹ Folin and Lyman, *Jour. Pharm. and Expt. Ther.*, IV, p. 539, 1913.

The minimum uric acid concentration of the blood under the influence of atophan varied among twelve individuals (normal, gouty and arthritic) from 0.7 to 2.0 mgm. per hundred grams of blood (initial values — 2.0 to 5.7). These minima are apparently irreducible. In one case, the daily administration of 4 grams of atophan for a period of 45 days failed to lower the uric acid below 0.7 mgm.

The initial concentration is restored within at least 2 to 4 days after the cessation of the use of atophan.

Our studies upon the uric acid concentration of the blood under various conditions are being continued, and will include the influence of colchicum and the salicylates.

With a radium emanation concentration of 2 to 4 M. U. per liter of air, Gudzent² claims to have caused uric acid to disappear from the blood for long periods of time. With our radium equipment, designed to yield 4 to 6 M. U. per liter, there was no noteworthy change in the uric acid concentration of the blood. We desire, however, to reserve definite conclusions until we have completed further studies with radium emanation.

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Some structural transformations of the blood cells of vertebrates.

By G. L. KITE (*by invitation*).

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The chief results of a study of structural transformations in the living blood cells of fishes, amphibians, reptiles, birds, and mammals are given in this paper.

The blood cells were usually prepared for observation by mixing fresh blood with Ringer's fluid containing sufficient hirudin to prevent coagulation.

Dark field illumination proved to be satisfactory for the observation of structural transformations in blood cells.

The following five forms or phases may be assumed by vertebrate white blood cells:

1. The hyaline surface phase which is characterized by a hyaline change and great increase in viscosity of the surface layer.

² Gudzent, *Berl. klin. Woch.*, XLVIII (2), p. 2098, 1911.