Rabbit 7: Died on the 62nd day, having shown signs of loss of weight and appetite from the 50th day on. Microscopic study showed considerable blood pigment deposited in the spleen, none in the liver. In the kidney there was a slight cloudy swelling, and some fatty degeneration. Cultures from the intestinal tract of all six animals at post mortem yielded growths of *Monilia psilosis* while those made from the heart's blood, liver, spleen and kidney were negative.

Controls: Six rabbits were treated in a similar manner as those of the *Monilia* experiments, excepting that bouillon growth of the other saccharomycetes isolated from the stools of the same sprue patient was the culture employed. These animals, although fed over a period of approximately 61 days with these presumably saprophytic cultures remained in every way normal.

The experiments indicated that the *Monilia psilosis* is pathogenic for rabbits when injected intravenously and also when given by feeding. The clinical picture produced in the animals of the feeding experiments is quite constant although no specific syndrome corresponding to clinical sprue occurred. The only manifestations relating to this clinical entity which were produced were loss of weight and some anemia. The striking feature of the stool character and the stomatitis of human sprue were in no instance noted. From the pathological standpoint the almost constant evidences of extensive blood destruction as shown by the marked deposits of blood pigments in the various organs, especially in the spleen, were of striking interest.

[1] Ashford, D. K., *Am. J. Med. Sc.*, 1917, cliv, 157.

3612

Variations of Blood Inorganic Phosphorus With Exercise.

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With regard to the relationship apparently existing between carbohydrate metabolism and the metabolism of phosphorus, it was proposed to study the behavior of the inorganic and the acid-soluble phosphorus in the blood of dogs whose carbohydrate supply was being rapidly utilized by strenuous exercise. The glycogen reserve of one series of animals was depleted by a preliminary 48 hour starvation.

The dogs were trained to run freely on a treadmill whose belt speed was 450 feet per minute. Rest periods at varying intervals during the exercise permitted the drawing of blood samples from the heart, and allowed the animals to regain their normal breathing. The total actual exercise varied from 30 minutes to 240 minutes.

The results from 10 experiments on 3 dogs showed:

1. Inorganic phosphorus in the blood of starved dogs taking standard exercise, at first decreased considerably (65 per cent in 90 minutes exercise), and then with continued exercise, rose towards the normal. During recovery, inorganic blood phosphorus rose to values approximately 60 per cent above normal. Total acid-soluble phosphorus of the blood paralleled its inorganic fraction during exercise and recovery. Sugar, calcium, and the percentage of corpuscles in the blood remained relatively constant.
2. Dogs that had not been starved showed very much less marked blood phosphorus changes with exercise. (30 per cent initial decrease in 60 min. exercise.)
3. A given duration of exercise produced a definite inorganic phosphate concentration in the blood.
4. Changes in the concentration of blood inorganic phosphate during recovery from exercise were independent of the duration of exercise.

This is a preliminary report.

3613

Scarlatinal Nephritis Experimentally Induced in the Dog.*

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Since the publication[1] of the results of our studies upon experimental nephritis in the rabbit with the toxic principle of *Streptococcus scarlatinae*, we have found that the dog is a more satisfactory animal for the purpose of causing nephritis with this particular injurious agent. This animal has proven to be not only highly susceptible to infection but developed regularly a severe and often fatal form of acute glomerulonephritis following the injection of the specific streptococcal toxin alone. None of the animals showed at any time an exanthem; however, it is significant that the induced

* Aided by a Grant from the David Schwartz Research Fund of Tulane Univ.