SCIENTIFIC PROCEEDINGS.

VOL. XXVI. DECEMBER, 1928. No. 3.

Iowa Branch.

University of Iowa, November 7, 1928.

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Nitrogen Metabolism of Diabetic Children.

GENEVIEVE STEARNS AND G. CLINTON KNOWLTON.
(Introduced by J. D. Boyd.)

From the Department of Pediatrics, State University of Iowa.

The nitrogen retention of a group of 33 diabetic children between the ages of 3 and 15 years has been studied during a total of 42 metabolism periods of 3 to 4 days each. The diets were calorically sufficient according to Holt's standards, and the protein intake approximated 2 gm. per kilogram body weight, the average for the younger children being slightly above, and that of the older group somewhat below this value.

The average retention of 4 children more than 10% under weight was greater than that of children whose weight was approximately normal, while the retention of overweight children did not differ materially from that of the normal group. The average retention for the group (omitting the 4 underweight children) was .044 gm. of nitrogen per kilogram body weight.

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Endogenous Rickets.

J. D. BOYD.

From the Department of Pediatrics, College of Medicine, State University of Iowa.

Active rickets has been observed in a number of patients whose intake of vitamins, calcium and phosphorus was fully adequate,

according to our present knowledge of such requirements. Prolonged use of potent cod liver oil failed to induce healing. In each case, the blood serum calcium values were approximately normal, the phosphorus being markedly lowered. In this respect they differ from the findings with the rickets which may be associated with renal inadequacy, in which the calcium is low, the phosphorus normal or increased. Because of absence of any demonstrable exogenous etiology, these cases have been considered as of endogenous origin. While rachitic symptoms were sufficiently marked in each patient to demand medical attention, laboratory studies indicated the presence of other metabolic disturbances in each case. Among the diverse syndromes presented by these patients are included atypical diabetes mellitus, diabetes insipidus, and extrophy of the bladder with transplantation of the ureters to the rectum. Patients studied intensively showed disturbances of the acid-base balance, of varying type and degree. In one instance the rickets became inactive after sodium bicarbonate, 1 gm. 3 times daily, was added to the patient's previously ineffective antirachitic regime. The data indicate that probably an actual or relative base deficit was present in each case.

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Effect of Intravenous Injections of Alkali on Physiological Action of Curare.

W. F. WENNER AND E. W. BLANCHARD.

From the Zoological Laboratory, State University of Iowa.

In an earlier paper[1] it was shown that a decrease in the pH of the blood, produced prior to the administration of lethal doses of strychnine, prevented violent tetanus and death. It was considered important to try the reciprocal experiment, that is, the effect of administering alkali to dogs that had previously received a lethal dose of curare.

Dogs used in this experiment received, intravenously, 5.7 mg. of curare per kilo of body weight. The drug used was the product of Burroughs, Wellcome & Co. Eight or 10 minutes after injection, when paralysis of the muscles, except the respiratory muscles, had appeared, a 5% solution of $NaHCO_3$ was injected intravenously. Complete recovery occurred within 15 minutes after approximately

[1] Wenner, W. F., and Blanchard, E. W., PROC. SOC. EXP. BIOL. AND MED., 1928, XXV, 726.