can be administered orally in large quantities (1.5 gm. per kg. daily) to completely parathyroidectomized dogs with no visible deleterious effect.

2. These forms of calcium are as effective as the lactate in preventing by their oral administration the development of tetany or rapidly restoring the animal to its normal condition (in 1½ hours) if tetany has developed spontaneously or has been induced intentionally.

3. Because of their irritating properties to the gastro-intestinal tract the acetate and nitrate are more likely to produce emesis than the lactate or the carbonate.

4. Calcium carbonate, though tasteless (unlike the bitter lactate), is physiologically as efficient but decidely more constipating than the lactate (acetate or nitrate).

5. The soluble calcium phosphate, on the other hand, is not only highly irritating but induces enophthalmos, vomiting, abdominal distress, great depression, hyperpnea, some spasticity, and pronounced salivation. It cannot be used, therefore, in place of the other salts of calcium and will receive further study. Calcium phosphate seems rather to favor the development of tetany than lead to its disappearance.

6. Calcium salts, with the exception just noted, will carry a recently parathyroidectomized but pregnant bitch through pregnancy, labor, and normal lactation although the pregnant and lactating animal is not as easily managed as a normal dog.

262 (2494)

Ketosis associated with conditions of alkalosis.

By LELA E. BOOHER and JOHN A. KILLIAN.

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Abnormally large amounts of acetone bodies have been observed in the blood associated with conditions of uncompensated alkalosis, due either to alkali therapy or to excessive loss of HCl through vomiting. The pH of the blood plasma was determined by the method of Myers, Schmitz and Booher and the acetone bodies by the method of Van Slyke and Fitz. For example, values

for acetone bodies of the blood of 60, 50, 66, 28 and 8 mg. per 100 cc. were found associated with pH values of 7.58, 7.54, 7.50, 7.52 and 7.50 respectively. The bicarbonate contents of these bloods were 84, 83, 88, 87, and 70, respectively. The amount of acetone bodies excreted in the urine was determined in two instances and was found to be abnormally large.

263 (2495)

A reaction given by insulin solutions in-vitro.

By STANLEY R. BENEDICT.

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It has been found that solutions of insulin (Iletin, Lilly) markedly accelerate the digestion of starch by various diastases. The studies thus far seem to show that this action is not due to the hydrogen ion or to the protein content of the insulin solutions. Further work is, however, necessary to show definitely whether the insulin is the effective factor. The work is being continued and is including a study of the effect of diastase injections upon blood sugar concentration.

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264 (2496)

Electric charges and stability in suspensions of red blood cells.

By JEAN OLIVER and L. BARNARD.

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A quantitative study by means of the Michaelis cataphoresis cell of the electric charge of red cells suspended in isotonic sucrose solution has given the following results: