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Vitamin A Deficiency in the Dog.

HAROLD S. OLCOTT.* (Introduced by Lafayette B. Mendel.)

From the Department of Physiological Chemistry, Yale University.

Steenbock, Nelson, and Hart[1] produced xerophthalmia in dogs on a diet free of fat-soluble vitamins. Suzman, Miller, and Ungley,[2] and Ralli and Waterhouse[3] were unable to do so but noticed anorexia and dermatitis after dogs had been fed diets lacking vitamin A. In view of these contradictory results, it seems desirable to record another unsuccessful attempt to produce xerophthalmia in the dog. Three female dogs of the same litter, 3 months old, were placed upon a diet containing casein (alcohol-extracted), 25%, dextrin, 10%, sucrose, 30%, lard, 25%, vitavose,† 6%, bone ash, 3%, and salt mixture,‡ 1.5%; each dog was given 2 drops of viosterol daily in addition to the ration of 25 gm. per kilo. Diets similar to this, when supplemented with cod liver oil, have been used with complete success in numerous other experiments with dogs.[4] The animals gained weight for approximately 2 months. About that time, appetite became sporadic and the animals rarely ate their entire daily ration. Two of the dogs died within a day of each other, having been on the diet 77 days. The only observable symptom preceding death, and that for only one day, was extreme weakness and lassitude. The third dog died 25 days later under identical conditions. There were no discoverable abnormalities in any of the 3 autopsies.

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* National Research Council Fellow in Medicine, 1931-1932.

[1] Steenbock, H., Nelson, E. M., and Hart, E. B., *Am. J. Physiol.*, 1921, **58**, 14.

[2] Suzman, M. M., Muller, G. L., and Ungley, C. C., *Am. J. Physiol.*, 1932, **101**, 529.

[3] Ralli, E. P., and Waterhouse, A., PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, in press.

† A wheat germ preparation of E. R. Squibbs and Sons, New York.

‡ NaCl, 25 parts, KCl, 25, Ca lactate, 22.5 Mg. citrate, 22, ferric citrate, 5, KI, 0.5.

[4] Cowgill, G. R., *J. Biol. Chem.*, 1923, **56**, 725; *Am. J. Physiol.*, 1923, **66**, 164; Cowgill, G. R., Rosenberg, H. A., and Rogoff, J., *Am. J. Physiol.*, 1931, **96**, 371.