

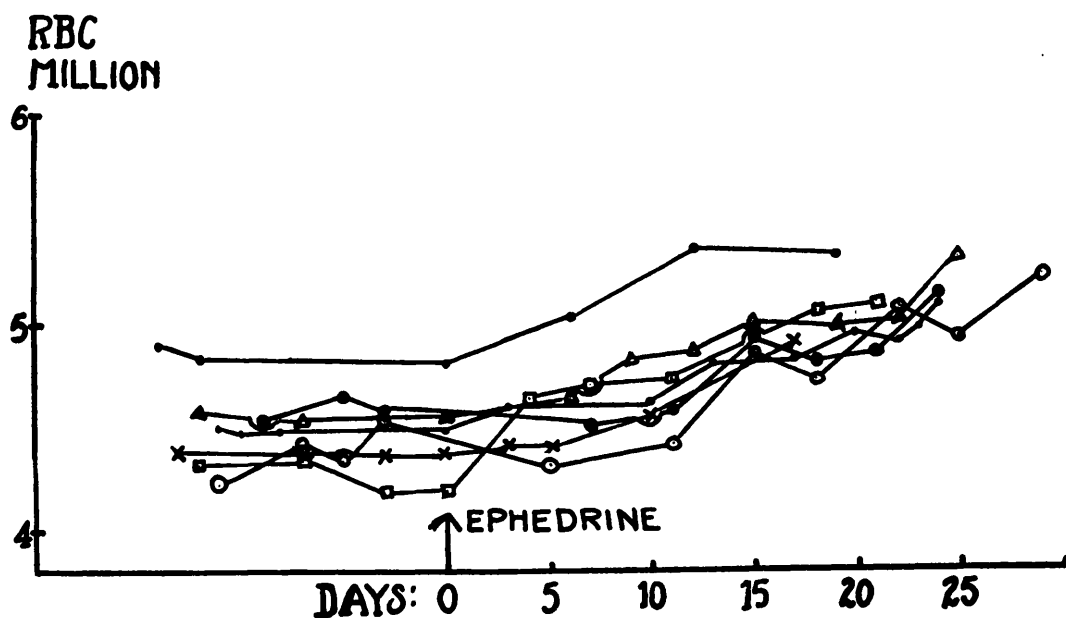


FIG. 1.

The effect of ephedrine sulfate (50 mg daily) upon the red blood cell counts of 7 normal men.

The continued daily oral administration of ephedrine sulfate (50 mg) produced no deleterious effects on the blood in these experiments.

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Deciduoma Formation with Desoxycorticosterone Acetate.*

GEORGES MASSON. (Introduced by Hans Selye.)

From the Department of Anatomy, McGill University, Montreal.

Until recently it was assumed that only progesterone or corpus luteum extracts are able to determine deciduoma formation in spayed animals primed with folliculoid compounds. This, if true, would be surprising especially in the case of ethynyl-testosterone and desoxycorticosterone acetate which, at relatively low dosages, elicit progestational changes in the uterus¹⁻⁴ and maintain preg-

nancy in spayed rabbits.^{5,6} Contrary to the negative results obtained by Stolte⁷ with ethynyl-testosterone, Cohen and Stein,⁸ using the method proposed by Astwood,⁹ succeeded in producing deciduomata in rats with a daily

³ Van Heuverswyn, J., Collins, V. J., Williams, W. L., and Gardner, W. U., *Proc. Soc. Exp. Biol. and Med.*, 1939, **41**, 552.

⁴ Selye, H., and Masson, G., *J. Pharm. and Exp. Therap.*, 1943, **77**, 301.

⁵ Courrier, R., et Jost, A., *C. R. Soc. Biol.*, 1939, **130**, 1162.

⁶ Courrier, R., *Presse méd.*, 1940, **60-61**, 658.

⁷ Stolte, L. A. M., *Proc. nederl. Akad. Wetensch.*, 1940, **43**, 1242.

⁸ Cohen, M. R., and Stein, I. F., *Am. J. Obst. and Gynec.*, 1940, **40**, 713.

⁹ Astwood, E. B., *J. Endocrinol.*, 1939, **1**, 49.

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¹ Inhoffen, H. H., Logemann, W., Hohlweg, W., and Serini, Arthur, *Ber. chem. Ges.*, 1938, **71**, 1024.

² Emmens, C. W., and Parkes, A. S., *J. Endocrinol.*, 1939, **1**, 332.

oral dose of 10 mg of this steroid. Since no reports were made concerning desoxycorticosterone acetate, we thought that it would be of interest to know whether it is also able to produce artificial deciduoma.

Eighteen albino female rats weighing 150-200 g were divided into one experimental and one control group, each consisting of 9 animals. The procedure used was reported by Rothschild and Meyer¹⁰ as giving a high percentage of positive results. The animals were spayed while in estrus, then treated with desoxycorticosterone acetate in a daily dose of 10 mg this being given in 2 subcutaneous

injections of 0.2 cc of peanut oil. On the fifth day of treatment, the endometrium was traumatized with a suture needle. The hormone treatment was continued for 5 more days after which the animals were killed. The same procedure was used in the case of the animals of the control group except that cholesterol was given instead of desoxycorticosterone acetate.

At autopsy, all the experimental rats showed deciduomata (++++ reaction according to Astwood's scale except a ++ reaction in one sick animal). All the controls were negative.

Conclusions. In rats, desoxycorticosterone acetate is able to determine deciduoma formation in all 9 of the animals used, with a daily dose of 10 mg.

¹⁰ Rothschild, I., and Meyer, R. K., *Physiol. Zool.* 1942, **15**, 216.

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A Tracer Study with Mn⁵⁶ on Chicks with Perosis Produced by a Synthetic Manganese Deficient Diet.*

MUSTAFA SAFWAT MOHAMED AND DAVID M. GREENBERG.

From the Division of Biochemistry, University of California Medical School, Berkeley.

A high calcium and phosphorus content in the diet of the chick results in the bone condition known as perosis.^{1,2} The work of a number of investigators makes it apparent that under the above conditions, the disease is caused by an interference with the absorption of the manganese in the diet.^{3,4} Administration of extra manganese, either orally or by injection, prevents the onset of perosis in the chicks reared on the high calcium and phosphorus diets.³⁻⁶

So far perosis has been produced only in birds reared on natural foodstuffs. It was of interest, therefore, to determine if the condition could be produced by a synthetic diet deficient in manganese, but of normal calcium and phosphorus content. In the experiments reported here, chicks were fed such a diet. The synthetic diet caused the development of the characteristic signs of perosis. The condition in the affected chicks did not differ in any particular form from the perosis caused by natural foodstuffs. It follows from this that primarily the deficiency of manganese and not any particular relationship between the manganese and calcium and phosphorus intake is responsible for the onset of perosis.

Tracer studies with Mn⁵⁶ of the metabolism of manganese have yielded important information about the fate of this element in the body

14, 155.

* The synthetic chick ration used in this study was devised by Dr. H. J. Almquist of the Division of Poultry Husbandry of the University. We gratefully acknowledge our indebtedness to him for supplying us with the ration and for rearing the chicks.

¹ Titus, H. W., *Poul. Sci.*, 1932, **11**, 117.

² Hunter, J. E., Dutcher, R. A., and Knandel, H. C., *Poul. Sci.*, 1932, **11**, 239.

³ Schaible, P. J., and Bandemer, S. A., *Poul. Sci.*, 1942, **21**, 8.

⁴ Wilgus, H. S., Jr., Norris, L. C., and Heuser, G. F., *Science*, 1936, **84**, 252; *J. Nutr.*, 1937,

⁵ Lyons, M., Insko, W. M., Jr., and Martin, J. H., *Poul. Sci.*, 1938, **17**, 12, 264.

⁶ Wilgus, H. S., Jr., and Patton, A. R., *J. Nutr.*, 1939, **18**, 35.