

is present in Ventriculin.

Conclusions. The daily oral administration of 10 g of Stomach U. S. P. to 4 polycythemic dogs caused depressions of their red blood cell counts. This preparation contains choline which is probably the constituent

responsible for the depression of experimental polycythemia in these experiments.

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Effect of Ephedrine Sulfate on the Red Blood Cell Count of Humans.*

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In 1941, the production of experimental polycythemia in dogs, rabbits, and man by the daily administration of ephedrine sulfate was reported by one of the authors.¹ Although the data on animals was adequate, it was possible to report data on only one human subject who received a daily dose of 50 mg of ephedrine sulfate. Erythropoiesis was apparently stimulated by the drug in this single individual, but the desire to have more data on more human subjects led us to make the investigation herein reported.

Procedure. Seven normal men who were leading a physically active life were used as subjects in this investigation. Red cell counts, leukocyte counts, and hemoglobin percentages (Sahli) were determined at frequent intervals before and during administration of the drug. After the normal blood cell values were obtained, each subject was given 50 mg of ephedrine sulfate daily by mouth. Fingertip blood samples were taken with the subject at *rest* and *before* the administration of the daily dose of the drug. Blood cell counts were made by an impartial technician who was unaware of the experimental procedures.

Results. Fig. 1 shows the effects of ephedrine sulfate administration for 3 to 4 weeks upon the red blood cell counts of all 7 subjects. It will be noted that the drug caused a rise of

about one-half million (on the average) in the erythrocyte numbers. Hemoglobin percentages increased correspondingly, but leukocyte counts showed no uniform or constant change (not shown). In the subjects who could be observed for longer than 4 weeks, the erythrocyte counts fell back toward normal in spite of continued ephedrine administration.

Discussion. Although only one of the human subjects in these experiments showed a rise of 0.8 million (Fig. 1) which was comparable to the erythrocyte elevation from ephedrine in the subject reported previously¹ by Davis, it appears that ephedrine, in the daily dose of 50 mg produces a mild polycythemia. This polycythemia seems to be only temporary, a fact which we may perhaps attribute to the phenomenon of tachyphylaxie. It is also possible that these subjects, because of their physically active mode of life, showed weaker cardiovascular responses to ephedrine in the 50 mg dose. The mechanism of the ephedrine induced increase of erythropoiesis was postulated¹ as depending upon vasoconstriction and a curtailed blood and oxygen supply to bone marrow.

Conclusions. The daily oral administration of 50 mg of ephedrine sulfate to 7 normal men caused a mild but appreciable polycythemia within 3 weeks. The elevation of the red cell count appeared to be only temporary, since in some subjects it disappeared at some time after the fourth week of drug administration.

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¹ Davis, J. E., *Am. J. Physiol.*, 1941, **134**, 219.

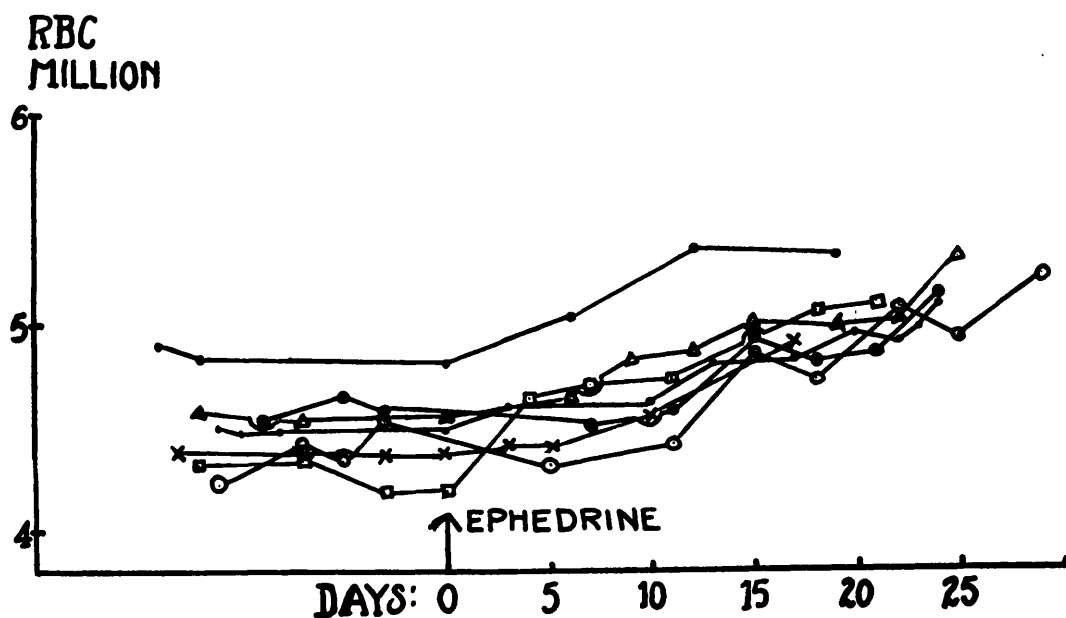


FIG. 1.

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.*

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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.