

sions. To establish the rôle played by convulsions, strychnine sulphata (0.05 cc. of a 1% solution per kg.) was given to 3 dogs, with results on the splanchnic vascular bed similar to those found in the cases of metrazol with convulsions.

In 4 other dogs the effect of pentamethylenetetrazol on the volume of the spleen and small intestine was ascertained. As shown in Table I, the changes in both viscera were negligible until convulsions appeared.

TABLE I.

	Dose, cc.	Time	Convulsions	Spleen Volume Change
Dog 9B	0.1	9:50	0	0
Wt. 8 kg.	0.1	10:15	0	0
	0.2	10:40	0	0
	0.5	11:00	0	0
	1.0	11:30	++++	Reduced +++
Dog D	0.25	9:55	0	0
Wt. 7 kg.	0.5	10:20	0	0
	1.0	10:40	twitches	0
	1.0	11:15	+++	Reduced +

From this work, it appears that there is no significant or consistent effect of pentamethylenetetrazol on the splanchnic vascular circulation or on the blood pressure of the anesthetized dog. The slight changes observed may well be due to reflexes resulting from increased respiration or muscular activity associated with convulsions rather than to any direct action of the drug on the peripheral vessels.

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Pediculosis in Rats Kept on a Riboflavin-Deficient Diet.

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In the course of experiments on the systematology of the vitamin B₂ complex, about 600 rats kept on diets deficient in riboflavin¹ have been observed and about 2000 rats kept on diets deficient in

¹ György, P., *Nature*, 1934, **133**, 498; *Biochem. J.*, 1935, **29**, 741.

vitamin B₆^{1, 2} and related factors, such as the factor affecting maturation of cells in the bone marrow³ and the filtrate factor.⁴

Lack of vitamin B₆ in the diet becomes manifest in rats in the form of the specific clinical picture of "acrodynia," and deficiency of the maturation factor in the form of panmyelophthisis. Riboflavin deficiency, on the other hand, is characterized mainly by stunted growth and only in some experimental animals by loss of fur and by small yellow scales.⁵ Under the conditions chosen it was not possible to confirm the findings of Day and his coworkers⁶ concerning the high incidence of cataract in rats kept on diets deficient in riboflavin.

During the study of the vitamin B₂ complex in the last 5 years, pediculosis has been encountered exclusively in rats fed diets deficient in riboflavin. In these diets vitamin B is represented only by B₁, and the vitamin B₂ factors other than riboflavin are provided by Peters' eluate.⁷ At first, pediculosis was regarded as a purely accidental and unspecific finding, one possibly related to a generally diminished vitality in these rats, which would then be unable to keep themselves clean in the efficient manner of normal animals. To our surprise, however, the majority of the rats with pediculosis were by no means weakened and inactive. Moreover, pediculosis was not observed even in moribund rats ill with acrodynia (B₆ deficiency) or with progressive panmyelophthisis caused by deficiency of the maturation factor. In the rats dying from panmyelophthisis there was prolonged agony, with complete muscular inactivity, and no appreciable intake of food for several days.

Intercurrent diseases, such as pneumonia, lung and kidney abscesses, generalized sepsis and diarrhea, which were frequently observed in this series of vitamin B₂ studies, did not apparently prepare the way for the occurrence of pediculosis except, again, in the rats fed riboflavin-deficient diets. It should be pointed out, however, that secondary infections of this kind did not usually appear in rats that exhibited pediculosis at the time they were on the diets devoid of riboflavin.

² György, P., *J. Nutrition*, in press.

³ György, P., Goldblatt, H., Miller, F. R., and Fulton, R. P., *J. Exp. Med.*, 1937, **66**, 579.

⁴ Lepkovsky, S., and Jukes, T. H., *J. Biol. Chem.*, 1936, **114**, 109.

⁵ György, P., Sullivan, M., and Karsner, H. T., *PROC. SOC. EXP. BIOL. AND MED.*, 1937, **37**, 313.

⁶ Day, P. L., and Langston, W. C., *J. Nutrition*, 1934, **7**, 97.

⁷ Kinnersley, H. W., O'Brien, J. R., Peters, R. A., and Reader, V., *Biochem. J.*, 1933, **27**, 225.

Experimental conditions with regard to kind of cages, basal diet, care, location in the animal room and seasonal factors were practically identical for the rats on diets deficient in riboflavin and those fed diets devoid of vitamin B₆ and related factors.

Pediculosis became apparent in about 20% of the animals that were kept for a sufficient length of time (more than 8 to 10 weeks) on the riboflavin-free diet. Therapeutic administration of riboflavin was followed not only by growth in the rats but also by complete disappearance of the pediculi, often accompanied by replacement of the diseased patches by new fur.

That it is possible to cure pediculosis in rats by nutritional means is in itself a significant finding and adds further weight to the conclusion that pediculosis and riboflavin deficiency in rats are inter-related.

Summary. Chronic riboflavin deficiency in rats is often accompanied by pediculosis. This disease has never been observed in rats manifesting symptoms of a deficiency of other factors of the vitamin B₂ complex. Administration of riboflavin by mouth has a curative effect on this type of pediculosis in rats.

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Treatment of Spontaneous Canine Distemper with Sulfanilamide.*

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Para-aminobenzene sulfonamide (sulfanilamide) and disodium 4-sulphamido-phenyl-2-azo-7-acetylamino-1-hydroxynaphthalene 3, 6-disulphonate (prontosil) have been used successfully in the treatment of beta hemolytic streptococci infections, and more or less good results have been reported on the use of these compounds in the treatment of meningococcal, pneumococcal, and gonococcal infections, gas gangrene, and as a urinary antiseptic.

Carré¹ reported that distemper in dogs is caused by a filtrable virus and this work was subsequently corroborated in carefully

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¹ Carré, H., *Compt. rend. Acad. d. Sc.*, 1905, **140**, 689, 1489.