

EFFECTS OF LEAD ACETATE ON THE WEIGHT OF THE KIDNEYS OF FEMALE WHITE RATS, CALCULATED PER 100 CM.² OF BODY SURFACE

Treatment	Duration of experiment (days)	Number of animals	Body-weight, average (gm.)	Kidneys weight, average (gm./100 cm. ²)
Lead treated	9	10	114 ± 4.7*	0.552 ± 0.019*
Controls	9	10	128 ± 5.4	0.395 ± 0.012
Lead treated	150	8	181 ± 6.5	0.499 ± 0.016
Controls	150	5	196 ± 12.0	0.367 ± 0.012
Lead treated	365	7	190 ± 11.2	0.653 ± 0.037
Uninephrectomy. Proteins and NaCl lead	90	6	175 ± 8.8	0.512 ± 0.023
Uninephrectomy. Proteins and NaCl.	90	4	191 ± 9.9	0.398 ± 0.023

* Standard error.

Hypophysectomy or adrenalectomy did not prevent the increase of weight and renal injury when lead salt solution was given to rats for a period of ten days.

Uninephrectomized rats fed on a standard diet and given lead for a period of six months had a tubular mass, as determined by diodrast excretion, 25 per cent greater than that of normal animals with both kidneys. Uninephrectomized controls on the same diet, but without lead, had a tubular mass 20 per cent below that of normal rats¹. Uninephrectomized rats fed a diet rich in protein and sodium chloride and treated with lead throughout a period of three months had the same degree of hypertrophy of the tubular mass as those treated with lead and fed a standard diet.

The increase of kidney weight produced by giving the 4.5 per cent lead solution during ten days was almost completely prevented by injecting intraperitoneally twice daily 33 mgm. per kgm. of body-weight of a 2-3 dimercaptopropanol (*B.A.L.*) solution in distilled water. Microscopic study confirmed the results of the macroscopic observations.

It is worth mentioning that *B.A.L.* did not prevent the anaemia of lead poisoning in this species.

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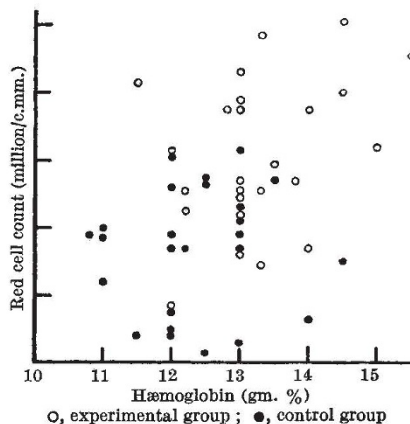
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¹ Braun-Menendez, E., and Chiodi, H., *Rev. Soc. Argent. Biol.*, in the press.

Induced Polycythæmia by *l*-Ascorbic Acid in Albino Mice

THE effect of *l*-ascorbic acid in increasing the number of red blood corpuscles has been studied in various laboratory animals¹ but hitherto not in mice. The present investigation was made to ascertain the action of the vitamin on the latter animal, taking into consideration, at the same time, the fact that there are many dietetic factors which affect the blood picture. Thus besides being properly fed on a diet consisting of cabbage and a mixture of cereal flour (8 parts) and whole milk powder (2 parts), the animals were given a salt mixture of iron, copper and cobalt (42, 55, 0.03 p.p.m. respectively²) and cod liver oil.

The animals, all male, were procured from the market and kept in the laboratory for one month before the experiment. Half received ascorbic acid



and half served as control. Each mouse in the experimental group was fed daily 0.5 c.c. of a 4 per cent vitamin solution with a tuberculin syringe. The solution was prepared afresh every day. At the end of the third week, blood samples were taken from the tails of the animals. The red cell count was made with a Neubauer counting chamber after dilution with Hayem's solution. For hæmoglobin determination, the colorimetric acid-hæmatin method was employed.

EFFECT OF ASCORBIC ACID ON MEAN RED CELL COUNT AND HÆMOGLOBIN VALUE OF MALE ALBINO MICE

Duration of experiment, 3 weeks. Number of mice in each group, 25. Ascorbic acid fed to experimental group, 2 mgm./mouse/day

	Average initial body wt. (gm.)	Average final body wt. (gm.)	Mean red cell count (million/c.mm.)	Mean hæmoglobin (gm. per cent)
Control group	15.1 ± 0.30	20.4 ± 0.36	9.70 ± 0.124	12.36 ± 0.125
Experimental group	15.2 ± 0.35	19.2 ± 0.39	11.12 ± 0.143	13.25 ± 0.132
Difference			1.42 5.07	0.89 3.59

The results, as summarized in the accompanying table, show that there is a general increase in the average body weight and that the mean red cell count and hæmoglobin value of the 25 mice in the experimental group are higher than those of animals in the control group. When the values of the red cell count and hæmoglobin are presented simultaneously in a graph, the points for the two groups can be seen to have different centres of distribution. The significance of the data, however, was clearly shown by treating them statistically. By the *t*-value method³, the probability that the difference is due to chance is found to be 0.001 in the case of hæmoglobin value and less than 0.001 in that of the red count.

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¹ Chang, Y. T., Chen, J. M., and Shen, T., *Arch. Biochem.*, 3, 235 (1943). Aszodi, Z., *Biochem. Z.*, 291, 34 (1937). Slonimski, P. W., *Arch. Exp. Zellforsch. Gewebezicht.*, 22, 101 (1938). D'Alessandro, R., *Minerva Med.*, 11, 273 (1939).

² Hawk, A. E. H., Thomas, A. W., and Sherman, H. C., *J. Nutrition*, 31, 609 (1946).

³ Mather, K., "Statistical Analysis in Biology" (1943).