

matorphores. These spermatophores are picked up by the females which lay their eggs without treatment.

The extract used in these experiments was obtained through the courtesy of Parke Davis and Company. The strength of the extract was 175 rat units per cc.

The effect of Antuitrin-S is similar to that of whole sheep's pituitary, which was found by Buyse and Burns¹ to be effective in ovulating the Mexican axotl. They did not treat the males.

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Hypertrophy of the Adrenals in Scurvy.

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The author¹ observed that a marked hypertrophy of the adrenals occurred in guinea pigs that died of scurvy. The same observation had been previously made by Bessesen² and others. Svirbely and Szent-Gyorgyi³ and Waugh and King⁴ have demonstrated that the hexuronic acid isolated from the adrenal cortex is vitamin C. It seemed desirable to investigate further the effect of a vitamin C free diet on the adrenal. The results are recorded in Table I.

TABLE I.

Guinea pig No.	Initial wt. gm.	Final wt. gm.	Survival period days	Wt. of Adrenals	
				Right mg.	Left mg.
1	325	235	35	230	250
2	335	240	24	170	200
3	315	240	21	170	240
4	325	250	30	130	140
5	295	190	29	135	160
6 Control)	280	400	33	95	100
7 "	305	365	26	90	115

The control animals received in addition to the Sherman, La Mer, and Campbell diet, 5 cc. of orange juice daily.

The adrenal hypertrophy is probably an attempted compensatory though futile response on the part of the organism to vitamin C

¹ Buyse, A., and Burns, R. K., *Proc. Soc. Exp. Biol. and Med.*, 1931, **29**, 80.

² Quick, A. J., *J. Biol. Chem.*, 1933, **100**, in press.

³ Bessesen, D. H., *Am. J. Physiol.*, 1922, **43**, 245.

⁴ Svirbely, J. L., and Szent-Gyorgyi, A., *Nature*, 1932, **129**, 576.

⁵ Waugh, W. A., and King, C. G., *Science*, 1932, **76**, 630.

deficiency. The adrenals of the normal guinea pig when cross sectioned and covered with 0.04% of silver nitrate became deeply stained due to the reducing action of the hexuronic acid as Szent-Gyorgyi⁵ first demonstrated. It was found that the adrenals of the scorbutic animals, in marked contrast, caused no reduction and remained unstained. This seems to indicate a complete depletion of the hexuronic acid in the terminal stages of scurvy. The relationship of vitamin C to the cortical hormone is not known, but it is interesting to note that in acute cortical deficiency, a marked capillary permeability is observed,⁶ while in scurvy there is presumably also an alteration in the permeability of the capillaries resulting in diffuse hemorrhages.

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Relation of X-rays to Lymphomatosis.*

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Five transmissible strains of lymphomatosis were studied. Two strains can be successfully transmitted to any stocks of mice, 3 to related mice only. Mice of stocks yielding from 50 to 100% success upon inoculation with malignant lymphocytes will be designated as susceptible, mice of a stock to which lymphomatosis could not be transmitted will be designated as resistant.

A single exposure of mice to X-rays will increase the susceptibility of the animals to transmissible lymphomatosis. The smallest quantity of X-rays that made resistant mice susceptible to lymphomatosis was about 30 r-units but this amount was effective in only 2 of 13 irradiated mice. The success of inoculations is greater after exposure to larger quantities of X-rays and is about 100% after exposure to sublethal doses (400 to 600 r). The duration of susceptibility is likewise proportional to the quantity of irradiation.

⁵ Szent-Gyorgyi, A., *Biochem. J.*, 1928, **22**, 1387.

⁶ Swingle, W. W., Piffner, J. J., Vars, H. M., Bott, P. A., Parkins, W. M., *Science*, 1933, **77**, 64.

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