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Can taurine replace cystine in the diet of the young white rat?

GEORGE T. LEWIS and HOWARD B. LEWIS.

[From the Laboratory of Physiological Chemistry, University of Michigan, Ann Arbor, Mich.]

Mitchell¹ has reported that taurine and cystine were equally efficient in promoting growth in white mice on a diet (source of protein, casein) in which cystine was the limiting factor. In the present series of experiments, young white rats have been maintained on the milk powder-starch diet of Sherman,² supplemented by vitamin B yeast concentrate tablets. On this basal diet slow growth was possible. When the basal diet was supplemented with cystine (0.3 per cent) marked increase in the rate of growth was obtained. When taurine (prepared from ox bile) was used as a supplement (1 per cent), no increase in the rate of growth as compared with the controls on the basic diet could be noted. Typical results on two litter units follow in the table. From our data no evidence is to be obtained in support of the contention that the young white rat can use taurine for the purposes of growth in the absence of sufficient cystine.

Litter No.	Duration Weeks	Diet.	Number of rats	Initial weight	Final weight	Gain
1	10	Basal	3	gm.	gm.	gm.
				57.0	120.5	63.5
				55.0	109.5	54.5
	10	Basal + Taurine	3	47.0	95.0	48.0
				50.5	95.5	45.0
				50.5	91.0	40.5
	10	Basal + Cystine	3	48.0	99.5	51.5
				47.0	132.0	85.0
				41.0	112.5	71.5
2	6	Basal	2	47.5	141.5	94.0
				84.0	109.0	25.0
				85.0	114.5	29.5
	6	Basal + Taurine	2	84.5	112.5	28.0
				88.5	113.0	24.5
				79.0	129.0	50.0
	6	Basal + Cystine	2	54.0	106.0	52.0

¹ Mitchell, M. L., *Austral. J. Exp. Biol. Med. Sci.*, 1924, i, 5.

² Sherman, H. C., and Merrill, A. T., *J. Biol. Chem.*, 1925, lxxiii, 331.