

Immunity to transplantable lymphatic leukemia is apparently not the result of blockade or invasion of lesions by normal host lymphocytes as has been supposed in resistance to other types of neoplasms,⁵ since the injected cells are necrotic before the mobilization of host cells.

8086 P

Influence of Thyroid Administration on Creatin Metabolism in Myxedema of Adults.

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Little is known of the creatin metabolism of adult myxedema other than the absence of spontaneous creatinuria. In children with cretinism or hypothyroidism, the physiological creatinuria of childhood is absent.^{1, 2} When thyroid substance is given to such children, large amounts of creatin appear in the urine.^{1, 2} This effect has been interpreted as a restoration of the normal creatinuria of childhood. It is not known, however, how long the creatinuria persists with continued administration of thyroid substance in amounts sufficient to maintain a normal basal metabolism.

We have studied the creatin metabolism of 2 typical cases of spontaneous adult myxedema. Their diet was creatin-creatinin-free, and adequate in calories and protein. The ability to retain ingested creatin (1.32 gm.) was tested from time to time. After a control period, thyroid substance was administered in amounts sufficient to restore and maintain a normal basal metabolism. The usual improvement in signs and symptoms took place. Six cases of myxedema following total ablation of the thyroid* were studied in the same way, except that no thyroid substance was given. Our findings in spontaneous myxedema are given in Table I and Chart 1.

Results. In agreement with other workers, we found no creatinuria in spontaneous adult myxedema. Creatinuria was also ab-

⁵ Murphy, J. B., *Monographs of the Rockefeller Inst. for Med. Res.*, 21, 1926. Lumsden, Thomas, *Am. J. Cancer*, 1931, **15**, 563.

¹ Beumer, H., and Iseke, C., *Berlin. Klin. Wchnschr.*, 1920, **57**, 178.

² Poncher, H. G., Visscher, M. B., and Woodward, H., *J. Am. Med. Assn.*, 1934, **102**, 1132.

* We are indebted to Dr. Herrman L. Blumgart of Boston for these cases.

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TABLE I.
Creatin Metabolism in Adult Myxedema Following Thyroid Extract.
Case I: K.B. (F), Age 50.

Date 1935	—Urinary Creatin—		Creatin Tolerance %	B.M.R. %	Thyroid Extract
	Spontaneous gm.	After Creatin 1.32 gm. gm.			
2/24-26	0.000	0.190	81	—21	none
3/17-19	0.108	0.557	55	—30	gr. ½ (3/7-14) gr. 1 (3/14-19)
3/31-4/2	0.413	1.050	33	—11	gr. 1 (3/19-21) gr. 2 (3/21-)
4/22-24	0.060	0.634	43	—1	gr. 2 (3/21-)

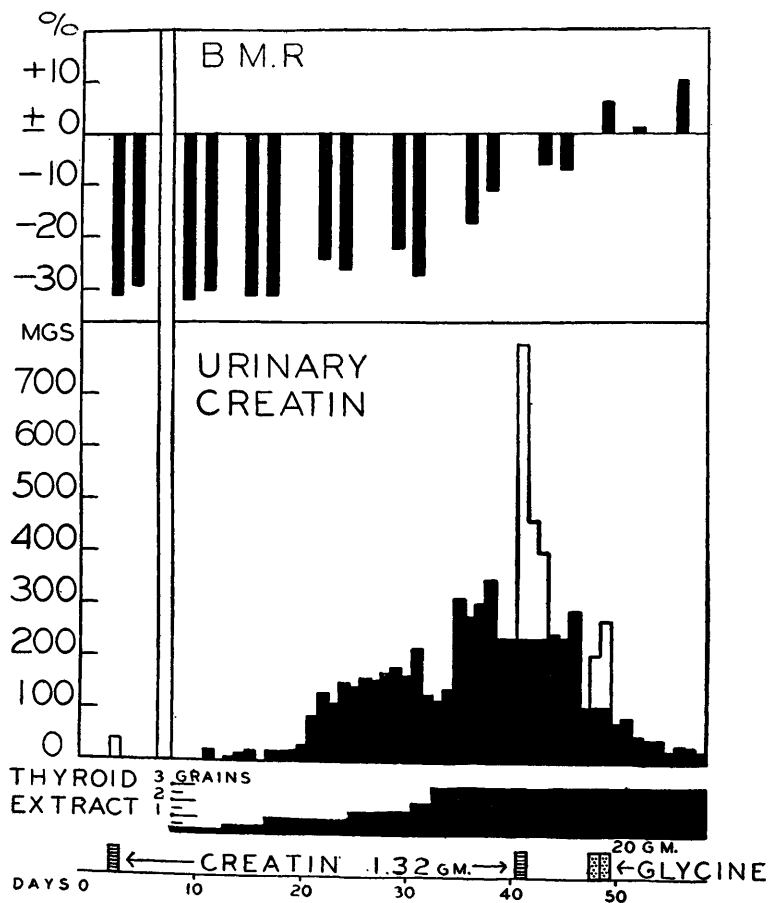


CHART 1.

Creatin Metabolism in Adult Myxedema Following Thyroid Extract.

Case 2: M.R. (F) Age 62.

Shaded areas indicate spontaneous creatinuria. Unshaded areas indicate "extra creatin" following administration of creatin and glycine.

sent in myxedema following total ablation of the thyroid. In both groups the retention of ingested creatin was normal. In spontaneous myxedema small doses of thyroid substance caused a pronounced creatinuria and a diminished tolerance to ingested creatin. This was observed before any elevation in the basal metabolism. In one case, at the height of the creatinuria, administration of glycine resulted in an excretion of extra creatin. This is comparable to our findings in Graves' disease.⁸ With continued thyroid administration, with the basal metabolism at normal levels, the creatin excretion gradually fell, and approached normal values. Apparently there is an eventual adjustment to thyroid administration. Whether a similar adjustment takes place in hypothyroid children cannot be answered from the data in the literature. This sensitivity of the creatin metabolism of adult myxedema to small doses of thyroid substance at low levels of basal metabolism offers an additional criterion for diagnosis.

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Effect of 4-6 Dinitro-o-Cresol on Yeast Respiration.*

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Field, Martin and Field¹⁻⁴ have shown that stimulation or inhibition of yeast respiration by 2-4, 2-5 or 2-6 dinitrophenol or by p- or m-nitrophenol is determined by the concentration of the undissociated form. It is well known that other nitrated phenols are direct stimulants of cellular metabolism, one of the most active of these being 4-6 dinitro-o-cresol (hereinafter DOC) which has been

⁸ Shorr, E., Richardson, H. B., and Wolff, H. G., *J. Clin. Invest.*, 1933, **12**, 966.

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¹ Field, J., 2nd, Martin, A. W., and Field, S. M., *PROC. SOC. EXP. BIOL. AND MED.*, 1933, **31**, 56.

² Field, J., 2nd, Martin, A. W., and Field, S. M., *J. Cell. and Comp. Physiol.*, 1934, **4**, 405.

³ Field, J., 2nd, Martin, A. W., and Field, S. M., *J. Pharmacol. and Exp. Therap.*, 1935, **53**, 314.

⁴ Field, J., 2nd, Martin, A. W., and Field, S. M., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **32**, 1043.