Anemia it occupies an intermediate position in its degree of regenerative response.

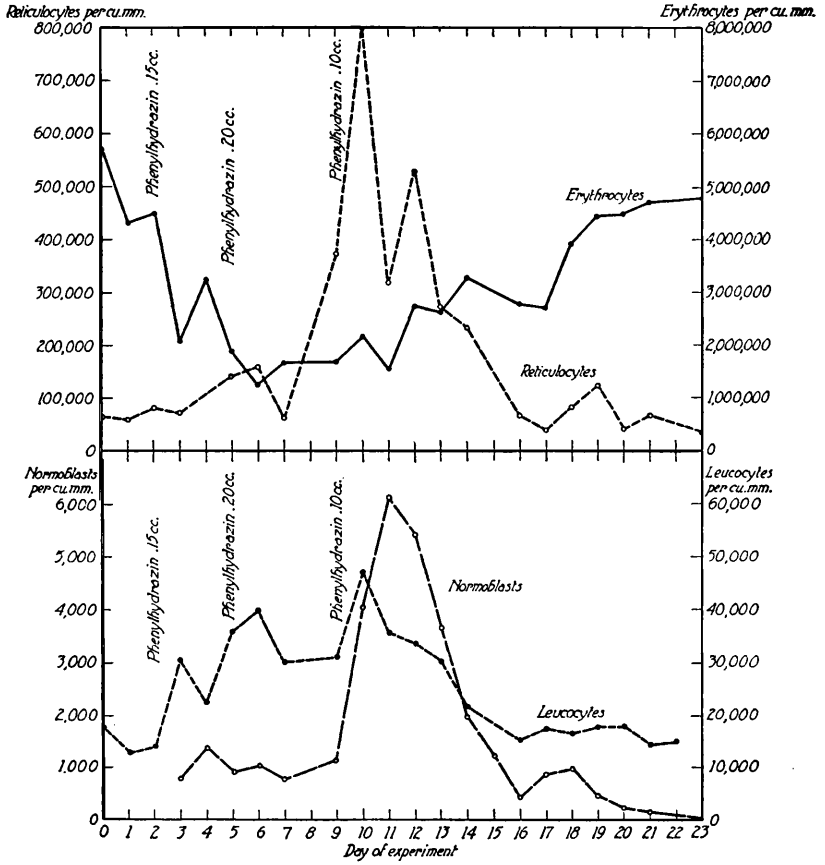

CHART 1. Blood response in Phenylhydrazine Anemia.

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Positive Effect of Tyrosine Feeding Upon Excretion of Reducing Urinary Compound in Myasthenia Gravis.

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In the course of the studies of the reducing urinary substance recently described by Medes, Berglund and Lohmann,[1] in a case of

[1] Medes, Grace, Berglund, Hilding, and Lohmann, Anne, PROC. SOC. EXP. BIOL. AND MED., 1927, XXV, 210.

Myasthenia gravis, some feeding experiments with amino acids have been carried out. The subject for our experiments was the same patient with *Myasthenia gravis* which was studied in the publication referred to above. Tyrosine and glycine were fed. Phenyl alanine was not available. The amounts fed were 2.5 gm. and 5 gm. The patient was on a uniform diet and the total amount of reducing power of the urine was determined by the Folin and Berglund[2] method, for the so called normal urine sugar. From previous work it is known that the reducing value of the 24 hour urine in normal individuals on a diet similar to our patient is about 1 gm. of glucose. The urine of our patient, as seen from the table, shows a reducing value corresponding to from 2.5 to 3.0 gm. per 24 hours. As shown in the table, the feeding of tyrosine brings about a definite increase lasting 2 days, while the feeding of glycine shows no significant increase.

Besides the tyrosine experiment reported in the table, tyrosine has been fed to the same patient in other experiments, once in 1 gm. doses continued over 2 days and followed by a 2.5 gm. dose, and once in a 5 gm. dose. In all instances has there been an unmistakable increase in the reducing value of the urine.

Our experiments do not give any information as to the quantitative relationship between the amount of tyrosine fed and the amount of reducing compound excreted. This is for 2 reasons:

TABLE I.

The effect of tyrosine and glycine feeding on the reducing power of the urine in a case of Myasthenia gravis.

Day of experiment	Urine in 24 hours	Creatinine	Reducing value as glucose	Experimental condition
	cc.	g.	g.	
1	2210	1.06	2.51	
2	2035	1.05	2.97	
3	1640	1.02	2.78	
4	2310	1.05	3.41	Tyrosine 5 gm. by mouth
5	1760	1.06	3.55	
6	2060	1.04	2.62	
7	1435	1.05	2.65	
—	—	—	—	
—	—	—	—	
10	2155	1.10	2.64	
11	2305	1.08	2.37	
12	1985	1.05	2.25	
13	1940	1.10	2.42	
14	2585	1.02	2.64	Glycine 5 gm. by mouth
15	2940	1.00	2.12	
16	2240	1.13	2.64	
17	1880	1.11	2.58	

[2] Folin, Otto, and Berglund, Hilding, *J. Biol. Chem.*, 1922, li, 209.

first, the Lloyd treatment of the urine removes some of our reducing compound. In 1 experiment with the isolated and moderately purified compound the first treatment with Lloyd's reagent removed 20 to 30%, a second shaking somewhat less. Second: we do not know how the reducing power of our compound corresponds to the reducing power of glucose. The reduction, as has already been pointed out, is more slow than with glucose. The reduction of the cupric compound when the test is carried out on the urine seems to go on undisturbed, and the final match of the color in the glucose standard and the unknown is perfect. When the purified compound is used the situation is different. Boiling for the ordinary length of time, 8 minutes, then gives on the addition of the phosphomolybdic acid reagent not a blue but a green color. We believe this to be due to the formation of a copper salt of the compound and a direct reaction of this salt with the phosphomolybdic acid.

A direct method for the determination of our compound is wanted but has not been worked out.

Conclusion: The feeding of a cyclic amino acid like tyrosine increases the amount excreted of the reducing urinary compound recently described in a case of *Myasthenia gravis.*