ulation. His work appears never to have been developed, and to have been unfortunately lost.

This work has been conducted through the courtesy of the Department of Physiology.

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Detoxification of Amidopyrine by Sodium Amytal.

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The antidotal action of sodium amytal against convulsant drugs has been demonstrated in both animals and men.[1-4] In view of the fact that large doses of amidopyrine cause convulsions of central origin,[5] it appears interesting to ascertain whether or not sodium amytal will similarly reduce its toxicity. Evidence of antagonism between amidopyrine and other barbituric acid derivatives has already been observed by several European workers.[6, 7]

White mice numbering 272 and rats numbering 221 were employed in the present investigation. They were all starved over night prior to medication. The drugs were injected by the tail vein. It is a coincidence that amidopyrine and sodium amytal when given alone have the same toxicity. The M.L.D. (minimal lethal dose) of each was found to be 150 mg. per kg. in mice and 135 in rats—using dose increments of 5 mg., and groups of 5 animals. The determined dose killed at least 3 animals out of an injected group of 5.

In the next series of experiments, sodium amytal was added and injected together with amidopyrine, various amounts of both drugs being used. As shown in Table I, the toxicity of amidopyrine is

[1] Knoefel, P. K., Herwick, R. P., and Loevenhart, A. S., *J. Pharm. and Exp. Therap.*, 1928, **33**, 265; 1930, **39**, 397.

[2] Zerfas, L. G., and McCallum, J. T. C., *Anesth. and Analg.*, 1929, **8**, 349.

[3] Swanson, E. E., *J. Lab. and Clin. Med.*, 1932, **17**, 325; 1933, **18**, 933.

[4] Kempf, G. F., McCallum, J. T. C., and Zerfas, L. G., *J. A. M. A.*, 1933, **100**, 548.

[5] Edmunds, C. W., and Gunn, J. A., *Cushny's Pharmacology and Therapeutics*, 10th edition, 1934, 553.

[6] Käer, E., and Loewe, S., *Schmerz, Narkose, Anesth.*, 1929, **1**, 11; 1929, **2**, 323.

[7] Pohle, K., and Spickermann, W., *Arch. f. exp. Path. u. Pharmak.*, 1931, **162**, 685.

TABLE I.
Detoxification of Amidopyrine by Sodium Amytal.

Species of Animals	No. of Animals Used	Amt. of Sodium Amytal Added mg. per kg.	M.L.D. of Amidopyrine mg. per kg.
Mice	52	0	150
	44	15	300
	35	30	420
	26	45	420
	54	60	480
	33	75	460
	12	90	460
	16	105	460
Rats	40	0	135
	46	13.5	320
	32	27.0	320
	17	40.5	320
	18	54.0	320
	42	67.5	400
	26	81.0	380

reduced approximately 2/3 when an optimal dose of sodium amytal was employed (which was 40% of the M.L.D. in mice, and 50% in rats).

It may be interesting to mention that in a group of 5 rabbits which was given by mouth 100 mg. of amytal and 227 mg. of amidopyrine daily, except Saturdays and Sundays, for 4½ weeks, there was no decrease in either the total white blood cell or the granulocyte counts. An examination of the microscopic sections of the bone marrow revealed no pathological changes. While these results definitely indicate that amytal and amidopyrine have little influence upon the leucocytes, they do not rule out the possibility that granulocytopenia may sometimes occur with the administration of amidopyrine in certain sensitive human individuals.[8]

[8] Reznikoff, P., *J. A. M. A.*, 1934, **102**, 2183.