hyperglycemia by decerebration is concerned.

This study confirms the well authenticated observation that disordered carbohydrate metabolism is most striking when decerebration is done at the pontile level. Unilateral piqûre of the floor of the IVth ventricle has been reported by several workers, including Claude Bernard, to give rise to transient hyperglycemia, but in one of our control animals (rat 304), in which the pons and midbrain were destroyed unilaterally up to the midline, the glucose tolerance was normal.

Under autopsy data in Table II, only the lower levels of the lesions are indicated, for these are regarded as the significant ones. At operation, considerable brain tissue was removed in order to be sure that decerebration was complete. In each of the animals decerebrated at the pontile level, autopsy studies disclosed either softening or absence of the midbrain, the epithalamus, the superior cerebrum, the hippocampus, and part or all of the thalamus, bilaterally. Free from lesions were the pituitary gland, hypothalamus, subthalamus, and lenticular nuclei, though in one instance (rat 343) the superior part of the hypothalamus at the infundibular level was softened. In the animal listed as having been subjected to midbrain decerebration (rat 309), the original intent was to do a decortication and have the animal serve as a control, but microscopic examination of serial sections of the brain disclosed destruction of the posterior thalamus, the most superior part of the hypothalamus, the pretectal region, the inferior colliculi, and the medial geniculate bodies, with softening of the lateral two-thirds of the rostral midbrain bilaterally.

Summary. Rats decerebrated at the pontile level exhibited a markedly elevated glucose tolerance curve 3 to 7 days after operation. One subjected to midbrain decerebration showed a shallower and less sustained curve. Hyperglycemia occurred in rats during the first few hours after pontile decerebration, which is in confirmation of previously published results on rabbits and cats.

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Effect of an Analogue of DDT on Experimental Murine Typhus.

FLORENCE K. FITZPATRICK. (Introduced by L. Earle Arnow.)

From the Virus Department of the Medical Research Division, Sharp and Dohme, Inc., Glenolden, Pa.

In a search for rickettsiostatic agents that might be more effective than para aminobenzoic acid (PABA), a large group of miscellaneous substances has been tested in mice infected with murine typhus. The results obtained with one of these, 1,1,1-trichloro-2, 2-bis(para-nitrophenyl) ethane, a nitro analogue of DDT, seem to warrant a brief report at this time.* This compound, which will hereafter be referred to as the nitro analogue, was being tested in mice by Kikuth in Germany at the time of the surrender. Nothing is known of his experiments except his notation that the compound was more effective against murine typhus than was methylene blue, and that it was of low toxicity.[1]

We have been successful in treating mice infected with murine typhus with material prepared in this laboratory.† Mice of the

* This substance was named Nitrogesarol by the Germans, a term which would erroneously lead to the belief that it was obtained as the result of the nitration of DDT.

1 Publication Board Reports, Dept. of Commerce, Report No. 248, p. 63.

† We are indebted to Dr. E. J. Cragoe, Jr., of the Organic Chemistry Department for the preparation of this compound.

TABLE I.
Comparison of Nitro Analogue at 0.5% and PABA at 2.0% Levels.*

	Nitro analogue		PABA		Controls	
	No. of mice dead on day					
Exp. No.	7	12	7	12	7	8
1	0/6 †	2/6	0/6	4/6	3/6	6/6
2	1/14	4/14	3/14	14/14	12/14	14/14
3	1/6	6/6	1/6	4/6	5/6	6/6
4	0/9	3/9	0/9	5/9	7/9	9/9
5	0/6	4/6	0/6	6/6	6/6	—
6	0/6	1/6	0/6	4/6	9/9	—
7	0/6	6/6	0/6	4/6	6/6	—
Totals	2/53	26/53	4/53	41/53	48/56	56/56

* Levels of 0.5 and 2.0% in the diet represent average drug consumptions of 10 and 40 mg, respectively, per mouse per day.

† Numerator denotes number of mice dead; denominator, number of mice used.

dba strain[2] weighing from 11 to 15 g were infected by the intraperitoneal route with 0.25 ml of a 6 to 10% brain suspension that had been prepared from infected brains kept frozen at –60°C. Treated mice received the drug, which was incorporated in ground Rockland chow for 7 days, beginning at the time of infection. Surviving treated mice were observed until death or recovery had occurred. Most untreated controls were dead by the seventh day. Table I summarizes experiments in which the nitro analogue and PABA were compared. It reveals that a high rate of survival during the period of drug ingestion was obtained with both agents, though the level of drug fed in the case of the nitro analogue was only equal to a quarter of the PABA required to achieve the same result. When the drugs were withdrawn on the 7th day there were more delayed deaths in the PABA-treated mice.

In preliminary toxicity tests no untoward symptoms were observed in 20 mice for a week following a single oral dose of 5 g/kg of the compound suspended in tragacanth.

In contrast with the results obtained with its nitro analogue, DDT was found to be highly toxic at levels of 0.4 mg/mouse/day and higher. At a concentration of 0.2 mg/mouse/day, a level tolerated by the mice, no rickettsiacidal activity was observed.

Summary. The nitro analogue of DDT when given in the diet for 7 days to mice infected with murine typhus resulted in a degree of survival on the 7th day equal to that obtained when 4 times the amount of PABA was administered. After the 7th day, when the drug was withdrawn, more PABA-treated mice succumbed, indicating that the nitro analogue is a better rickettsiacidal agent. The oral toxicity of the compound for mice appears to be of a low order.

2 Moragues, V., and Pinkerton, H., *J. Exp. Med.*, 1944, **79**, 35.