served as the experimental animal. In a series of 10 experiments 8 gave evidence of a distinct hyperglycemia which usually appears within an hour, or somewhat later, and may last for several hours. The hyperglycemia is induced by doses ranging from 50 to 100 mg. per kilo of amytal whether given by mouth, subcutaneously or intraperitoneally. Since the completion of our work Weiss[2] has shown that amytal produces hyperglycemia also in the cat and dog.

Illustrative examples of the experiments are given in Table I.

[1] Page, I. H., *J. Lab. and Clin. Med.*, 1925, ix, 194.

[2] Weiss, S., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiii, 363.

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Concentration of Arsenic in Blood Subsequent to Serial Administion of Neoarsphenamine.

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A number of investigations* have shown that when arsphenamine and neoarsphenamine are intravenously introduced, the arsenicals rapidly disappear from the blood stream, part apparently going to immediate excretion, and part to storage in the tissues. Usually, however, these results have been obtained from 1, or in some instances from 2 or 3 injections of the arsenical. To determine whether the number of injections would play any rôle in the disposition of arsenic we have followed the quantity of arsenic present in the blood after serial administration of neoarsphenamine to dogs, maintained upon a constant fixed diet. The drug was introduced into either the jugular or femoral vein, and blood was drawn from an artery, usually of the leg. Each animal received 0.3 gram neoarsphenamine at intervals of 4 days. The arsenic was determined in 10 cc. samples of blood, by the combined methods of Chittenden and Smith, and Sanger and Black, the total quantity in the body being derived from a calculation of the blood volume from the body weight. The results are detailed in Table I.

* References to the literature may be found in Kolmer, A. J., *Chemotherapy*, p. 538 *et seq.*

TABLE I.

Arsenic in Blood after Serial Administration of Neoarsphenamine.

Dog 1.

Dose injected, 0.3 gm. Neoarsphenamine (Av. weight, 15.5 k.)
(0.3 gm. Neoarsphenamine—66,000 mg. As.)

Injection	½ hr.	1 hr.	3 hr.	6 hr.	10 hr.	19 hr.	24 hr.	48 hr.	72 hr.
1st	9300	6975		Trace	Trace		Trace	0	0
2nd		6975	2325	1162			Trace	0	0
3rd	6975		2325	1162		Trace	0	0	0
4th	11625	9300	2325	1162			Trace	Trace	0
5th	4650	4000		1704				Trace	Trace
6th	6975			(5½ hr.)		Trace	Trace	Trace	Trace (65 hr.)

Dog 2.

Dose injected, 0.3 gm. Neoarsphenamine (Av. weight, 14.5 k.)

1st	4856	4260	1957	1065	0	0	0	0	0
2nd	4260	1065		1065			0	0	0
3rd	4260		1278	852			Trace	0	0
4th	4648		2130				Trace	0	0
5th	6390	5325	4260				Trace	Trace	0
6th	5964							Trace	0
7th	5325	2130	1800				Trace	Trace	0

All figures are given in micromilligrams of arsenic.

From the table may be seen, as others have found, a rapid disappearance of arsenic from the blood within the first one-half hour, after which the decrease is more gradual. It is to be noted that in the case of Dog 1 traces of arsenic can still be found at 24 hours following each of the first 2 injections, but that after the fourth injection there is still a trace present at 48 hours. Following the fifth injection traces can be found at 72 hours and at 65 hours after the sixth injection. With Dog 2 no traces of arsenic can be found after 24 hours after each of the first 4 injections, but after the fifth, sixth and seventh injections traces of arsenic can be shown at 48 hours.

In the case of Dog 1 after the fourth injection there is a much greater amount of arsenic in the blood after 30 minutes and 1 hour than there is at the corresponding time intervals after each of the first three injections. Also in the case of Dog 2 there is a slight increase in arsenic content after the fifth injection at all intervals as compared with the 4 previous injections.

It is quite evident from these data that with increasing injections of neoarsphenamine there is a slight but definite tendency toward a "lag" in the elimination of arsenic from the blood. The significance of this is problematical. Whether it means that the tissues absorb the arsenical less rapidly or that the renal function rate is decreased by possible injury remains open for future determination.