still potentially biologically active; the expression of this activity is dependent on addition of salt.

Summary. In preparations of RNA made from polioviruses by phenol extraction technic, the infectivity of RNA which is rendered undetectable by dilution in isotonic or hypotonic salt solutions can be quantitatively recovered by addition of NaCl or KCl. This is true whether the exposure to low salt concentrations is brief, or as long as 24 hours. Reversibility of infectivity by hypertonic salt concentrations would seem to preclude participation of residual RNAase in the preparation itself as a major cause of inactivation of RNA infectivity with alterations in molarity.

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Effect of Vasopressin on Creatine Excretion in the Rat. (25500)

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In experiments designed to measure inhibition of postirradiation polydipsia and polyuria by antidiuretic hormone vasopressin, it was observed that 500 mU of Pitressin tannate in oil significantly increased urinary excretion of creatine in Co^{60} gamma irradiated rats as compared to irradiated non-injected controls(1). Evidence is presented here to show that a significant increase in urinary creatine excretion is also evoked in normal rats by injection of vasopressin.

Methods. Forty young female Wistar rats (135-282 g) were randomized by weight and injected intramuscularly with Pitressin tannate in peanut oil (Parke, Davis & Co.), aqueous Pitressin, commercial peanut oil (Planter's) or normal saline. Rats were housed in individual metabolism cages and fed Wayne Lab-Blox pellets except when noted; body weights, water intakes, and urine outputs were recorded daily. Twenty-four hour urine samples were analyzed for creatine by modification(1) of the method of Anderson *et al.*(2) and for creatinine by the Jaffe reaction after mechanically shaking (30 min) aliquots with 7 ml of Amberlite IRA-401 (30-60 mesh) in the chloride cycle (washed with 40 volumes of distilled water) and collecting the effluent by filtration over glass wool with 3 washes of distilled water. Recoveries of added creatinine averaged 90 $\pm$ 3%.

Results are summarized in Table I. In fed animals, significant creatinuria occurred on all 3 days after injection of 5 U Pitressin tannate in oil. Fasted control rats experienced the usual starvation creatinuria and Pitressin-evoked creatinuria was not significant until the second and third days. Of 5 rats injected with 20 U aqueous Pitressin, one died within 12 hours; in the remaining rats no significant increase in creatinuria was observed on either of 2 postinjection days. In experiment with fed rats, water intakes were significantly reduced on first postinjection day by Pitressin in oil ($P<0.01$) but no differences in water intakes were observed between fasted controls and fasted hormone-injected animals on first postinjection day. Water intakes of fed rats injected with aqueous Pitressin were not different from controls but urine outputs were significantly lower than controls on first postinjection day. In no experiment did body weights or creatinine excretions of hormone-injected rats differ from controls.

TABLE I. Average Daily Creatine Excretion (mg) and Urine Output (ml) of Normal Rats.

	0-24 hr		24-48 hr		48-72 hr	
	Cr*	Ur*	Cr	Ur	Cr	Ur
Fed rats inj. with 5 U Pitressin tannate in oil (10)	4.2 ± 2.1	5 ± 4	5.0 ± 2.4	4 ± 3	4.6 ± 2.3	4 ± 4
Fed rats inj. with peanut oil (10)	.9 ± .4	5 ± 4	1.4 ± .8	5 ± 4	2.1 ± 1.2	4 ± 4
P	<.01	NS	<.01	NS	<.02	NS
Fasted rats inj. with 5 U Pitressin tannate in oil (5)	6.6 ± 2.6	4 ± 1	8.2 ± 1.9	3 ± 1	7.8 ± 1.9	3 ± 1
Fasted rats inj. with peanut oil (5)	4.0 ± .7	3 ± 1	3.9 ± .8	3 ± 1	3.9 ± 1.1	3 ± 1
P	NS	NS	<.01	NS	<.01	NS
Fed rats inj. with 20 U aqueous Pitressin (4)	2.0 ± 1.1	8 ± 1	2.8 ± 1.9	11 ± 2		
Fed rats inj. with normal saline (5)	1.0 ± .1	12 ± 2	1.0 ± .2	9 ± 2		
P	NS	<.05	NS	NS		

* Cr, creatine; Ur, urine. No. in parentheses indicate No. of animals.

For this strain of rats with an average body weight of 165 ± 29 g, the average of 138 twenty-four hour urinary creatinine determinations was 2.7 ± 1.2 mg.

Discussion. Aqueous solutions of vasopressin when injected intramuscularly are absorbed into the blood stream very rapidly and it has been shown that aqueous Pitressin in concentrations of 100 mU/100 g, when injected intravenously in anesthetized rats is cleared (inactivated) from blood within 5 min, primarily by kidney and splanchnic vascular bed(3). Since aqueous solutions of the hormone did not evoke creatinuria, it is concluded that a sustained elevation of blood level of vasopressin is necessary for the effect. Duration of creatinuria after injected Pitressin tannate in oil is at least 4 days, as judged by subsequent experiment in which significant creatinuria was observed for this length of time. This duration is in approximate agreement with the observation that antidiuresis in the hydrated rat is detectable for several days after injection of comparable doses of Pitressin tannate in peanut oil(4). If the reasonable assumption is made that the 5 U in our experiments were released from injection site at an *average* rate of 50 mU/hour into blood volume of 10 ml, then the observed creatinuria probably results from an *average* blood level of about 5 mU/ml. This concentration greatly exceeds the physiological level of the antidiuretic hormone, estimated to be 0.8 to 3.0 μU/ml(5), but is comparable in order of magnitude to concentrations of 10-20 mU/ml found after massive hemorrhage(6).

These results suggest that creatinuria resulting from forms of stress such as lethal irradiation and starvation may be mediated by a sustained elevation of the antidiuretic hormone. Although the least dose of Pitressin capable of producing the effect in normal rats has not been established, it is probable (assuming adding of effects on creatine excretion of irradiation and Pitressin(1)) that the threshold dose is lower than that reported here by a factor of at least 10.

Summary. Intramuscular injection of 5 U of the antidiuretic hormone vasopressin (Pitressin tannate) in oil evoked a significant creatinuria for 72 hours in fed rats and a significant creatinuria from 24-72 hours in fasted rats, without affecting excretion of creatinine. Aqueous solutions of the hormone (20 U) did not produce significant creatinuria.

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