

addition of acid to complete precipitation of protein. The increase in the blood sugar in filtrates prepared by this device averaged about 4 mg. in each 100 cc. in 12 experiments. The differences, although negligible from the practical standpoint, and well within the ordinarily accepted limits of analytic error, are uniformly in one direction and indicate that the glucose content of our unlaked blood filtrates, as usually prepared, was too low. If the values for sugar in unlaked blood be increased by the amount indicated, the corrected distribution ratios will average about 0.80. This also represents approximately the ratio of the water content of the cells to that of the plasma, and suggests that the blood sugar tends to be distributed in equal concentrations in the water of the cells and of the plasma. The average distribution ratio found from the analyses of laked blood in these experiments, 0.86, is not in serious disagreement with this view, but may, however, imply that the cells tend to contain slightly more glucose relative to the plasma, rather than less, as found by Folin and Svedberg.

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Effect of Rattlesnake Venom on Flexner-Jobling's Carcinoma in the White Rat (*Mus Norvegicus Albinus*.)

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(Introduced by Frank C. Mann.)

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Since the venom of the rattlesnake is known to cause severe injury to normal animal tissues we were interested in determining its effect on the Flexner-Jobling carcinoma in the white rat. It was considered possible that intravenous injections of this venom would inhibit the development or possibly destroy the tumor in this animal. Therefore, the tumor was transplanted subcutaneously into 50 rats. Tumors subsequently developed in 29. Twelve of these were selected as controls, and 15 were selected for intravenous injections of the venom. The dose employed was 0.1 to 0.3 cc. of 2% cro-talin, the average dose being about 0.2 cc. Larger doses proved fatal.

The injections were made once a week for 6 successive weeks and measurements were taken at the time of the injection. The results were entirely negative. The tumors of the injected rats grew just as rapidly as the control tumors.

It should be pointed out that the rat is highly refractive to the action of crotalin. A rat weighing 150 gm. is not killed by an injection of one-third of the usual lethal dose for a dog weighing 10 kg. A subcutaneous injection of crotalin into the white rat is not followed by sloughing which usually follows subcutaneous injections into dogs and rabbits.

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On the Cause of Brain Edema After Pitressin.

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Brain hydration has been shown¹ to accompany the anuria of rabbits injected with pitressin. We are now attempting by studies of brain swelling, to throw some light upon the cause of this pitressin edema.

In our first experiments, post-mortal swelling of dogs' brains in their own defibrinated blood was studied with and without the addition of pitressin. Pitressin (P. D. & Co.), which contains 0.5% chloretone was added, usually in the ratio of 2 cc. to each 25 cc. of defibrinated blood. In the control experiments, 2 cc. of 0.5% chloretone was added instead. (The brains were all obtained from dogs killed after 2 or 3 hours moderate etherization preceded by morphine.)

In each of 5 animals it was found that both the cerebrum and medulla swelled more slowly and to a less extent in the presence of pitressin. This difference was at first more pronounced in the cerebrum. The average weight increases from three nearly identical experiments for the second hour were: *cerebrum*, normal 7.1%, after pitressin 5.7%; *medulla*, normal 5.0%, after pitressin 4.5%. Four hours post mortem the following increases were noted: *cerebrum*, normal 7.8%, after pitressin 6.8%; *medulla*, normal 5.7%, after pitressin 4.5%.

Rabbits were given water *per os*, 75 cc. per kilo. Each day a rabbit was given, just after the water, $\frac{1}{2}$ cc. pitressin per kilo. After an interval which varied from 15 minutes to one hour, the animals

¹ Ellerbrook, G. E., Dunham, E. S., and Barbour, H. G., *J. Pharmacol. and Exp. Therap.*, 1930, **39**, 249.