heated to boiling, although the results were irregular. The activity of saline extracts which had been inactivated by boiling for a short time could be reactivated on the addition of a neutralized solution of cysteine to give a final concentration of 0.5%, and the same restitution effect was observed with extracts which had become inactive upon standing in the room for several hours.

The properties of the active substance suggested attempts to concentrate it. This could be done in the following manner: 6 gm. of rat sarcoma were ground with the addition of 5 cc. of water, and the suspension was poured into 25 cc. of boiling water, slightly acidulated with 3 drops of 5% acetic acid. After being heated to boiling, the suspension was cooled and coagulated protein removed by spinning. The supernatant fluid was neutralized and evaporated by vacuum distillation. The apparatus used for distillation was filled with pure hydrogen which was passed through 2 washbottles with alkaline solution of pyrogallol and a third bottle containing water. After evaporation to a small volume the water was completely removed in a well evacuated desiccator over P_2O_5. The dry material was then taken up in 5 cc. saline solution containing 0.2% cysteine. This solution had a stronger activity than the original tumor extract and agglutinated rabbit blood instantaneously. Moreover, in contrast to the original extract it agglutinated also sheep, horse, and guinea pig blood.

4984

Effect of Adrenalin on Blood Fat.

H. E. HIMWICH AND M. L. PETERMANN.

From the Department of Physiology, Yale University, New Haven.

The results of the first series of a group of studies on fat metabolism have been presented in preliminary form.[1] The present communication contains the results of the 4 pilot experiments of a second, projected series of these studies. Samples of arterial blood were drawn from amytalized dogs, and the fat contents of the blood plasma were determined by the method of Stewart and White.[2]

[1] Himwich, H. E., Friedman, H., Berry, E., and Chambers, W. H., PROC. SOC. EXP. BIOL. AND MED., 1929, xxvii, 193.

[2] Stewart, C. P., and White, A. C., *Biochem. J.*, 1925, xix, 840.

In experiment 1, ¼ cc. of adrenalin chloride (Parke, Davis and Company) was injected subcutaneously every one quarter of an hour for 6 hours. Experiment 2 differed from 1 in that the injections of adrenalin were continued for 4 hours only. In experiments 3 and 4, adrenalin injections were also stopped at the fourth hour, but they were followed at that time by the subcutaneous injection of 5 units of insulin per kilo.

TABLE I.
Fat Content of Plasma of Arterial Blood of Dogs. mg. %.

Exp. No.	Days fasted	Before injection	Hours after injection			
			2	4	6	8
1	4	557	978	1431	1668	
2	1	804	974	1196	1258	
3	2	508	526	936	717	462
4	5	543	709	829	859	1120

It will be observed in Table I that subcutaneous injections of adrenalin may give rise to lipemia. Apparently insulin overcame the lipemic action of adrenalin in experiment 3. It is generally known that insulin reduces the lipemia of diabetes. Rony and Ching[3] have shown that insulin has the same effect on post-prandial lipemia.

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Effect of Pituitary Extracts on Basal Metabolic Rate.

H. E. HIMWICH AND F. W. HAYNES.

From the Department of Physiology, Yale University, New Haven.

Previous studies on the effect of pituitary extracts on basal metabolic rate have not been conclusive, although an increase has been indicated. The work of Oliver Kamm who succeeded in separating the oxytocic and vasomotor principles of pituitrin, has made it possible to fractionate their effects on metabolism. In the present experiments the metabolic rates of male rats fasted approximately 24 hours, were determined in a Haldane-Pembrey apparatus, before and after the subcutaneous injections of chloretone-free pitocin,

[3] Rony, H. R., and Ching, T. T., PROC. SOC. EXP. BIOL. AND MED., 1930, xxvii, 533.