SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS.

Ninety-Sixth meeting.

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President Gies in the chair.

28 (1403)

The mechanism of corpuscle and serum anaphylaxis in the rabbit.

By ARTHUR F. COCA.

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1. In rabbits dying acutely after a reinjection of corpuscles or after a primary injection of pig's corpuscles, the pulmonary circulation is found to be impermeable to saline solution under pressures so much greater than the maximal normal blood pressure in the pulmonary artery of that animal (over four times as great in some instances) that a sufficient immediate cause of death under these circumstances is seen in this physiologically complete interruption of the pulmonary circulation.

2. This obstruction of the pulmonary circulation is not due to an agglutination of the corpuscles and it may reasonably be referred to an effect on the muscular coat of the arterioles because the same phenomenon is produced by the injection of dissolved corpuscles and by the reaction of acute serum anaphylaxis—active and passive—and also by the introduction of the antigen into the pulmonary circulation after the latter has been perfused for five minutes with saline solution.

3. In the light of these observations, the local effect of Arthus would seem reasonably explicable as an area of infarction due to the interference with the blood supply to the area.

4. The cachexia and late death of rabbits in serum anaphylaxis offered, in the one instance of this kind, examined, a pathological

picture consonant with the findings in acute anaphylaxis in the rabbit—the usual picture of a chronic interference with the circulation; namely, anasarca and greatly dilated right heart.

5. In the guinea-pig dying in acute anaphylaxis, the pulmonary circulation offers no increased resistance to the passage of fluid through it.

29 (1404)

The effect of oxidation on Wassermann antigen.

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In 1914 the authors had occasion to prepare some lecithin by MacLean's method (*Journal of Pathology and Bacteriology*, 18, p. 490). The method (an elaborate one) consists essentially of numerous precipitations out of ether and water, by means of acetone, of the alcoholic extracts of dried beef heart. The purified precipitate is finally dried in vacuo over sulphuric acid. Throughout the work air is excluded so far as possible.

In the present work from 6½ kilos of lean pressed beef heart, about 8 grams of purified lecithin were obtained. The lecithin had a yellowish white waxy appearance and upon analysis was found to contain 4.06 per cent. phosphorus and 1.93 per cent. nitrogen. The nitrogen and phosphorus are in the ratio of one to one. It had an iodine number of seventy. Throughout the procedure every precaution was taken to exclude air by replacement with CO_2 so as to prevent oxidation as far as possible. Some of the lecithin was put in tubes in vacuo, and some in carbon dioxide gas.

The lecithin separated in this way is not true lecithin, but a mixture of true lecithin and kephalin. It possesses however all the properties of the substance generally alluded to as lecithin.

The samples of lecithin put up in tubes have been tested in the Wassermann reaction at various times during the last four years. It has been found that the antigenic property of those tubes which remained perfectly sealed was preserved and remained