

ether to dogs in the lipemic phase following a fat meal. Ninety-five per cent of animals so treated showed definite fat embolism in the lungs, as compared to 21 per cent of controls which were killed by many different procedures.

It is emphasized that no significance has heretofore been placed on the physical state of the normal fat in the blood-stream. This is the first experimental production of fat embolism by other than traumatic means. The possible relationship of clinical fat embolism to the presence of protein split products in the blood-stream is suggested by the breaking down of artificial emulsions by these substances.

This is a preliminary report.

3431

Action of Aldehydes on Histamine and on Active, Histamine-like Substances Produced by Gas-Bacillus.

ARTHUR ISAAC KENDALL.

From the Department of Bacteriology and Public Health, Washington University School of Medicine.

It was shown in a preceding paper¹ that the contraction induced by histamine, or the histamine-like substance produced by the gas bacillus, in a section of guinea pig intestine, or uterus suspended in Tyrode solution, could be relaxed immediately by the addition of 0.1 cc. neutral formalin solution. The most plausible explanation for this phenomenon is a definite chemical reaction between the amino group of the histamine molecule and the aldehyde according to the equation

$$R.CH_2 CH_2 NH_2 + H.CHO = R.CH_2 CH_2 N : CH_2 + H_2O$$

whereby the ethyl amine group is removed.

It follows that other aldehydes might react in a similar manner, if this explanation be correct.

A series of aldehydes have consequently been tested, using the technique described in the preceding contribution.¹ These comprised, besides formaldehyde, already mentioned, acetaldehyde and its polymer paraldehyde, aldol, glycol aldehyde, glyceric aldehyde and methyl glyoxal, the ketones, acetone and dihydroxyacetone, and acetophenone.

The ketones, and those aldehydes having an oxygen atom attached to the carbon atom next the aldehyde group were without obvious effect. This group included acetone and dihydroxyacetone and the following aldehydes: glycol aldehyde, glyceric aldehyde and methyl glyoxal.

Acetaldehyde, paraldehyde (which probably depolymerizes in Tyrode solution) and aldol, which has the oxygen atom attached to the carbon atom twice removed from the aldehyde group, reduced the contractions promptly. For reasons that are not quite apparent, acetophenone was also very effective in this regard.

These observations are in accord with the hypothesis that certain aldehydes in addition to formaldehyde unite chemically with aromatic amines. They also suggest a pharmacological relationship between the proximity of oxygen upon adjacent carbon atoms and the physiological reactivity of certain aldehydes.

This is a preliminary report.

¹ Kendall, A. I., *PROC. SOC. EXP. BIOL. AND MED.*, 1927, **xxiv**, 316.

3432

Pathological Changes in Arteries Following Partial Denervation.

A. H. KERPER AND W. D. COLLIER.

From the St. Louis University School of Medicine.

In a study of the innervation of the arteries of the extremities, segments of the vessels obtained from experimental animals killed at intervals varying from 5 weeks to 3 months following unilateral extirpation of the lumbar sympathetic trunk and the inferior cervical sympathetic ganglion, with or without ligation and section of the femoral and brachial arteries on the opposite side, were prepared by the pyridin silver method. Preparation of the vessels which had been ligated and sectioned still show an abundant nerve supply, though somewhat reduced as compared with that of the normal control vessels. Preparation of the vessels of the sympathectomized limbs show still further reduction in the nerve supply, but still exhibit relatively large bundles of nerve fibers both in the adventitia and the media. The reduction in the number of nerve fibers following sympathectomy is more marked in the arteries of the forelimb than in those of the hind limb. Obviously some of the nerve