

9 in the first case. The amount of antipyrine used was thus less. Only 70 mg. per kg. were injected, as compared to 100 mg. per kg. in the first case.

It may be seen from these data that antipyrine markedly decreases the lethal dose of digitalis. More remarkable, however, is the extreme rise in blood pressure, which we have noted with other antipyretics also. Neither of these drugs alone produces a notable rise.

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#### Carotid Sinus Pressor Reflexes in Anoxia.\*

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Whereas the rôle of the chemoreceptors in the carotid body and aorta for the blood pressure response to oxygen deficient gas mixtures was discussed in the preceding paper<sup>1</sup> the influence of the inhalation of low oxygen on the pressor reflexes will be presented in this paper. Gellhorn<sup>2</sup> reported that in the erect posture the blood pressure, after an initial rise, fell rapidly when the experimental subject inhaled 8% oxygen. Such a fall in blood pressure which readily leads to collapse was not seen when the subject inhaled the same gas mixture while in the recumbent position. These findings were explained by assuming a weakening of the pressor reflexes in anoxia. The following experiments were devised to test the validity of this hypothesis.

1. The influence of a change in posture on the blood pressure in the carotid artery was studied in narcotized dogs which were tilted from the horizontal to the vertical (feet down) position for 20 seconds. In a typical experiment the blood pressure fell about 40 mm. Hg. Hereafter 7% oxygen was inhaled and the same test was repeated. The fall of blood pressure increased to 70 mm. Hg.

\* The experiments will be published *in extenso* in a monograph published by the University of Illinois Press.

† Aided by a grant from the Graduate School of the University of Illinois to E. Gellhorn.

<sup>1</sup> Lambert, E., and Gellhorn, E., *PROC. SOC. EXP. BIOL. AND MED.*, 1938, **38**, 427.

<sup>2</sup> Gellhorn, E., *Arch. Int. Med.*, 1937, **10**, 1267.

Upon readmission of air the values obtained successively were 60 mm., 50 mm., and 40 mm. Hg. respectively, indicating a complete reversibility of the effect of low oxygen.

2. A series of experiments was carried out in which the carotid sinus pressor reflexes were tested by raising the pressure in the carotid sinus. The procedure of Lim and Chang<sup>3</sup> was used. It was found that the fall of blood pressure resulting from an increase of pressure in the carotid sinus was diminished during the period of inhalation of 9% O<sub>2</sub>. Upon readmission of air the original effects were reestablished.

The experiments prove that the carotid sinus pressor reflexes are diminished under conditions of oxygen deficiency. This fact explains the different reactions of blood pressure in man to the inhalation of low oxygen gas mixtures in the erect and recumbent position.

*Conclusions.* During inhalation of 7-9% oxygen the pressor reflexes of the carotid sinus are greatly reduced. This is shown, (1) by a greater fall of blood pressure in the carotid artery upon changing from the horizontal to the vertical (feet down) position than is obtained under control conditions before and after the administration of low oxygen; (2) by a diminished response of the blood pressure under low oxygen to a given increase in pressure in the carotid sinus.

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### Inactivation of Complement by Iodo-acetic Acid.\*

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In preceding studies<sup>1</sup> it has been shown that normal guinea-pig complement can be reversibly inactivated by a number of oxidizing agents provided that the inactivation be controlled. The oxidants employed were iodine, H<sub>2</sub>O<sub>2</sub>, quinone, and O<sub>2</sub> and the reductants H<sub>2</sub>S, KCN, ascorbic acid, and sodium hydrosulfite. It was also

<sup>3</sup> Lim, R. K. S., and Chang, H. C., *Chinese J. Physiol.*, 1936, **10**, 29.

\* Aided by a Grant-in-aid, Division Medical Sciences, National Research Council.

<sup>1</sup> Ecker, E. E., Pillemer, L., Martiensen, E., and Wertheimer, D., *J. Biol. Chem.*, 1938, **123**, 351.