

the mixture. This would indicate that the protective phenomenon observed was due to the interaction of the reductants with the phospholipids, thereby inhibiting their anticomplementary powers.

It has been generally believed that phospholipids play a distinct rôle not only in biological redox phenomena^{5, 6} but also in immunological reactions. It is therefore possible that a connection exists between these two assumptions.

Evidence presented here indicates that an excess of cephalin or of lecithin weakens complement and that the effect may be reversed by ascorbic acid or by glutathione SH. These findings, therefore, point to the fact that the phospholipid inactivation of complement may be at least partly oxidative in nature.

The reactivations of the inactivated complements by ascorbic acid and by reduced glutathione may be due either to the reduction capacity of these agents, thereby reducing the oxidized system to a state whereby it can function or that the reductants employed unite directly with the phospholipids and thereby prevent the compounds from exerting an anticomplementary action.

It is at present difficult to explain the differences observed between the oxidized and the unoxidized phospholipids.

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Effect of Divinyl Oxide on Intestinal Activity *in vivo*.*

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The knowledge of the effect of the newer inhalation anesthetic agents on intestinal contraction is far from adequate. In a previous report¹ it was indicated that during the first two planes of surgical anesthesia the effect of cyclopropane on intestinal activity in the intact animal consists of an increase of both intestinal contractions and tone followed by inhibition if narcosis is further deepened. These results agree with the *in vitro* effects observed by Peoples and

⁵ Koch, W., *Ztschr. Physiol. Chem.*, 1903, **37**, 181.

⁶ Fränkel, S., and Dimitz, L., *Wien. klin. Wchnschr.*, 1909, **22**, 1777.

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¹ Burstein, C. L., *Proc. Soc. Exp. Biol. and Med.*, 1938, **38**, 530.

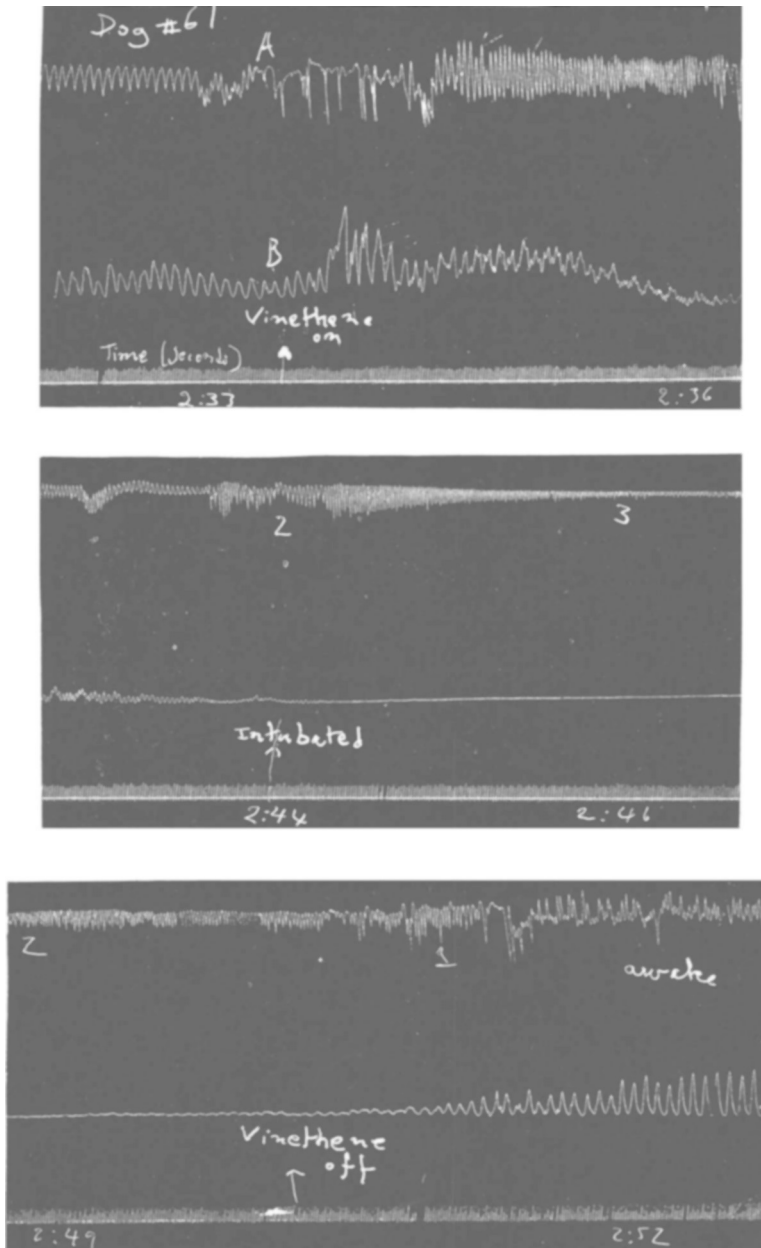


FIG. 1.

Effect of divinyl oxide on intestinal activity of dog *in vivo*. Serial sections taken from the same experiment: Upper record (A), thoracic respiration; lower (B), intestinal contractions. Time in second intervals. The numbers below the respiratory tracing indicate the plane of surgical anesthesia. Divinyl oxide (Vinethene) was administered between arrows (2:34 to 2:50).

Phatak² on isolated intestinal muscle. Divinyl oxide, another of the newer anesthetic agents, was shown by the same authors³ likewise to increase the tonicity of the isolated intestinal segment. The present study is concerned with the effect of divinyl oxide on intestinal activity *in vivo*.

Six dogs were prepared with Thiry-Vella loops of the upper jejunum. When healing had occurred, tracings of the intestinal movements were recorded after inserting a balloon, connected to a water manometer, into the lumen of the proximal end of the Thiry-Vella loop. Respiratory tracings by means of a pneumograph applied about the chest were simultaneously recorded in order to rule out the possibility that the tracings taken from the balloon were not due to respiratory movements. No preanesthetic medication was administered. All animals were anesthetized with divinyl oxide (Vinethene—Merck) and oxygen by means of a Foregger Metric machine using the closed carbon dioxide-absorption technic.⁴ An endotracheal tube fitted with an inflatable cuff was introduced as soon as the state of surgical anesthesia was reached in order to assure a patent airway and thereby obviate the effect of respiratory obstruction and the ensuing anoxemia.

Results. Contrary to the *in vitro* results, all animals showed effects identical to those obtained with ether (di-ethyl oxide); namely, diminished muscular tone and complete inhibition of intestinal contractions during all planes of surgical anesthesia. (Fig. 1.)

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A Fraction from Normal Chick Embryo Similar to the Tumor Producing Fraction of Chicken Tumor I.

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A fraction possessing high tumor-producing activity can be isolated from chicken sarcoma extracts by means of differential cen-

² Peoples, S. A., and Phatak, N. M., *Proc. Soc. Exp. Biol. and Med.*, 1935, **33**, 287.

³ Peoples, S. A., and Phatak, N. M., *Proc. Soc. Exp. Biol. and Med.*, 1934, **32**, 378.

⁴ Rovenstine, E. A., *Am. J. Surg.*, 1936, **34**, 456.