Correspondence

Ethylene Oxide Sterilization

To the Editor:—The ethylene oxide sterilization procedure described by Sheely and Volpitto provides a good solution to the often neglected problem of sterilization of endotracheal tubes and other rubber goods; however some words of caution regarding ethylene oxide may be in order. The ethylene oxide Freon mixture they describe is nonflammable in any dilution with air but ethylene oxide itself is quite flammable, the flammability range in air being 3 to 50 per cent. Undiluted ethylene oxide as well as other ethylene oxide mixtures are available commercially; therefore, when purchasing sterilizing gas, a nonflammable mixture such as that described by Sheely and Volpitto should be specified. Another hazard associated with ethylene oxide is the rather high degree of toxicity. It is an intense local irritant especially to the eyes, mucous membranes and respiratory tract. Respiration of high concentrations may cause pulmonary edema. The threshold value is 50 p.p.m. A concentration of 5 to 10 per cent is said to be fatal within a few minutes. Thus care should be taken to insure a tight system and to prevent the escape of ethylene oxide into the room. It would also seem unwise to evacuate the sterilizing gas into the hospital vacuum system or a vacuum pump without being certain that the gas would be diluted or appropriately vented.

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References

Porphyria and Thiopentone

To the Editor:—In the communication entitled “Porphyria and its relationship to anesthesia,” Ward (Anesthesiology 26: 212, 1965) reports that he is unable to confirm my statement that sodium Pentothal anesthesia is frequently followed by catastrophic attacks (Eales: Ann. Rev. Med., 12: 251, 1961). Other South African workers, however, have also stressed the role of thiopentone in the genesis of the acute attack. No less than 11 of the propositi of the first 32 main family groups in Dean’s huge family study presented with acute attacks following thiopentone-induced anesthesia (The Porphyrias. London, Pitman Medical Publication, 1963, p. 84). Dean has gone so far as to say “this anaesthetic nearly always precipitates an attack of acute porphyria” (S. Afr. Med. J. 30: 377, 1956). This overstates the position. Eales and Linder (S. Afr. Med. J. 36: 284, 1962) in the course of an analysis of 60 patients with acute attacks reported a close relation between thiopentone anesthesia and neurological involvement but emphasized that patients with the South African type of genetic porphyria (porphyria variegata) might undergo thiopentone anesthesia on more than one occasion without ill effect.

Dr. Ward’s survey of 66 cases of porphyria covered a period of 11 years, and before commenting on his survey it is instructive to com-