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Anesthetic Management of Pneumoencephalus

To the Editor:—Grundy and Spetzler¹ recently pointed out the risk of subdural pneumoencephalus during craniotomy. The use of nitrous oxide in Patient 1 and possibly in Patient 2 would have increased the size of the pneumoencephalus due to the difference in solubilities of nitrogen and nitrous oxide.² In addition, the continued administration of nitrous oxide and halogenated inhalational agents such as halothane may increase intracranial pressure and cause further neurologic compromise.³ Therefore, nitrous oxide and halogenated inhalational agents should be discontinued as soon as the pneumoencephalus is diagnosed.

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A Possible Undesirable Interaction of Propranolol and Atropine

To the Editor:—We wish to draw to the attention of anesthesiologists the occurrence of emergence delirium in thiamylal-anesthetized dogs receiving propranolol (2 mg/kg) and atropine (0.4 mg/kg) in combination. This phenomenon was not observed in the same animals during similar conditions of anesthesia on at least 50 separate occasions in the absence of propranolol and atropine. Neither did we observe this in the same animals under the same conditions of anesthesia receiving the same dose of either propranolol (eight occasions) or atropine (six occasions) alone.

Emergence delirium in these dogs consisted of sustained running movements performed in the lateral decubitus position, recurrent loud whining in the absence of sensory stimulation, fixed stare, and total lack of contact with immediate surroundings. Within 5 minutes of receiving physostigmine (1 to 2 mg, iv), the animals became responsive, assumed an upright position, and walked back to their cages.

Because atropine is advocated as the drug of choice in treating propranolol-induced bradycardia in the

operating room, this interaction may be clinically important. While we acknowledge that the doses of both propranolol and atropine used in our studies are clearly in excess of those used in clinical practice, we think anesthesiologists should be alerted to the possible occurrence of emergence delirium as a result of interaction of these two drugs. Our experience indicates that a relatively small amount of physostigmine terminates the delirium in our dogs and may be useful in man.

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