

and Rauwolfia tranquilizer therapy. With many of these drugs, severe extrapyramidal symptoms are uncommon, but with those phenothiazines containing a piperazine moiety in the side chain, e.g., trifluoperazine (Stelazine), prochlorperazine (Compazine), perphenazine (Trilafon), thiopropazate (Dartal), such side effects are the rule rather than the exception. Based on the postulate that the syndrome is due to interference with the normal functioning of central catecholamines, particularly dopamine, and of central histamine; dopa (the precursor of the catecholamines) and diphenhydramine (Benadryl) were employed therapeutically. Dopa was only mildly beneficial in a small number of patients, but diphenhydramine completely controlled the reaction in all cases. Although with rare exceptions the syndrome is completely reversible on removal of the offending drug, the development of severe and unexpected extrapyramidal reactions in patients with some underlying physical illness would be potentially serious because of heightened sensitivity to, and slower metabolism of the drug. Parenteral anti-Parkinsonian medication to accompany discontinuance of the phenothiazine would be strongly indicated. Appropriate treatment would be immediate parenteral administration of 25 mg. of diphenhydramine. (McGeer, P. L., and others: *Drug-Induced Extrapyramidal Reactions*, J. A. M. A. 177: 665 (Sept. 9) 1961.)

ORAL ANTISPASMODIC Five drops of a solution containing 50 mg. procaine, 4 mg. pentobarbital, and 4 mg. phenobarbital (Barbicaine) per cubic centimeter gave relief to 4 infants with pyloric stenosis and 64 per cent of 50 infants with infantile colic. (LaBranche, H. G.: *Procaine-Barbiturate Mixture in Infantile Colic*, *Western Med.* 2: 394 (Sept.) 1961.)

RESPIRATORY STIMULANT A series of 43 patients with respiratory depression from severe barbiturate poisoning, chronic pulmonary emphysema, and miscellaneous causes was treated with ethamivan (vanillic diethylamide, Emivan). In patients severely depressed from barbiturate intoxication, initial doses of 400-500 mg. of ethamivan were

given intravenously, followed by continuous infusions containing 1 Gm. in 250 ml. of per cent dextrose in water. Rate of flow was adjusted according to response, close supervision of therapy being required to maintain optimal respiratory stimulation with a minimum of undesirable side effects (generalized pruritus, muscular twitchings, excitation and restlessness). The mildly vasopressor properties of the drug appeared to be valuable in those patients unable to tolerate intermittent positive pressure breathing because of ensuing hypotension. When given in adequate dosage, prompt stimulation of respiration and rousing could be expected, with ventilatory improvement demonstrated by significant decreases in PaCO_2 in the emphysematous subjects. (Silipo, S., and others: *Experiences with Ethamivan, New Respiratory Stimulant and Analeptic Agent*, J. A. M. A. 177: 378 (Aug. 12) 1961.)

SUCCINYLCHOLINE APNEA When easily accessible superficial veins are not available, (e.g., in infants) or in an emergency where rapid endotracheal intubation has to be performed, the intramuscular administration of succinylcholine provides a useful method for the relatively rapid production of muscular relaxation. When it is necessary to use intramuscular succinylcholine for the maintenance of prolonged muscular relaxation, the repeat dose should be one-third to one-half the initial dose, and its administration should be delayed until the patient's respiratory tidal volume is well on its way toward normal. If prolonged apnea develops, controlled ventilation must be maintained until the patient's spontaneous respiration returns, and then respiration must be assisted until its depth becomes adequate. On rare occasions it may be necessary to maintain artificial respiration for many hours. During this time, the patient's cardiovascular system should be supported by intravenous infusions and other measures (vasopressors, digitalis) as necessary. The maintenance of adequate circulation and urinary excretion will facilitate the excretion of succinylcholine. The use of respiratory stimulants or anticholinesterases (e.g., edrophonium or neostigmine) is contraindicated. Beyond careful attention to the patient's circulation and respiration, infinite patience is the only additional measure re-