crease the rate of metabolism of the catacholamines. Epinephrine and norepinephrine disappear from the animal in two phases; the first a period of rapid metabolism primarily by oxygen methylation; and the second phase a slower one, when part of the catecholamines are bound to tissue constituents and then released and metabolized slowly. The findings in mice suggest that the sympathomimetic amines may increase the rate of metabolism of epinephrine and norepinephrine in part by preventing the protective binding of the catecholamines to tissue constituents. (*Axelrod, J., and Tomchick, R.: Increased Rate of Metabolism of Epinephrine and Norepinephrine by Sympathomimetic Amines, J. Pharmacol. Exp. Ther. 130: 367 (Dec.) 1960.*)

ANALEPTICS The consideration of analeptics is limited to those drugs which stimulate the central nervous system as their primary action. Emphasis is placed on the effects of the analeptics in the presence of barbiturates and other anesthetic depressants of the central nervous system. Despite the existence of controversy in the treatment of barbiturate intoxication, considerable data and supportive evidence are provided to show that analeptics should not be rejected in the overall management of barbiturate poisoning. (*Hahn, F.: Analeptics, Pharmacol. Rev. 12: 447 (Dec.) 1960.*)

BARBITURATE POISONING Fourteen patients with severe acute barbiturate intoxication have been treated by a regimen of forced diuresis produced by infusion of a 15 per cent solution of urea and alkalinization of the urine. In most cases 100 ml. of the 15 per cent urea solution were given hourly. Minor adjustments of the urea load were necessary to keep the diuresis at 500 to 800 ml. per hour. As the diuresis increased, additional fluid without urea was given intravenously. The additional fluid was composed of potassium chloride 12 mEq. per liter, sodium lactate 40 mEq. per liter, and glucose 200 mEq. per liter. Four of these same patients had previously been observed in the same department for intoxication with the same barbiturate for which they were later given diuretic treatment. These patients acted as their own controls. The over-all elimination rate of barbiturate from the body was increased in all 14 cases over that of comparable control cases. The treatment was not equally effective in poisoning produced by all types of barbiturates. The period of unconsciousness was generally reduced to one half or a third. One patient suffered transient pulmonary edema and another severe dehydration. (*Lassen, N. A.: Treatment of Severe Acute Barbiturate Poisoning by Forced Diuresis and Alkalinization of Urine, Lancet 2: 338 (Aug. 13) 1960.*)

THIOPENTAL WITH MEGIMIDE It has been claimed that if megimide and thiopental are mixed together on a 1 to 3 ratio, the anesthetic potency of thiopental is not decreased but there is less respiratory depression. The potency ratio of thiopental and a 3 to 1 mixture of thiopental and megimide has been determined in 7 dogs by a servo-controlled, cross-over experiment employing the electroencephalogram as an index of drug action. Thiopental was found to be 1.51 times as potent as thiopental plus megimide. (*Bellville, J. W., Murphy, T., and Howland, W. S.: Potency of Thiopental Plus β,β-Ethylmethylglutarimide, J. Pharmacol. Exp. Ther. 130. 364 (Nov.) 1960.*)

TRIMETHOBENZAMIDE A hitherto unrecognized property of the antimetic drug trimethobenzamide (Tigan) is its action in suppressing the reflexes of the pharynx and larnyx, a desirable factor in many surgical procedures. This drug has a swift and effective action in restoring normal functioning of these mechanisms permitting anesthesia and surgery to proceed without incident. (*Sheiner, B.: Use of Trimethobenzamide (Tigan) in Anesthesia, Canad. Med. Ass. J. 83: 1377 (Dec. 24) 1960.*)

ANTIEMETICS The antiemetic properties of 4 commonly used phenothiazine preparations has been tested in dogs by the use of apomorphine, digitalis, nicotine, and nitrogen mustard-induced vomiting. The depressant properties of these drugs was also tested to determine whether or not the antiemetic effect was on the basis of central sedation. Fluphenazine

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proved to be more potent than chlorpromazine, perphenazine, or triflupromazine so far as its antiemetic qualities were concerned. None of the phenothiazines provided protection against emesis produced by digitalis, nicotine, veratrum, or nitrogen mustard. The antiemetic potency of fluphenazine did not appear to be a result of central sedation. (*Laffan, R. J., and others: Antiemetic Action of Fluphenazine (Prolixin): Comparison with Other Phenothiazines, J. Pharmacol. Exp. Ther., 131: 130 (Jan.) 1961.*)

NAUSEA AND VOMITING A study was undertaken to quantitate the relative subjective side actions of oxymorphone (Numorphan) and morphine in patients who were free of pain. Equivalent analgesic doses of morphine (10 mg./70 kg.) and oxymorphone (1.05 mg./70 kg.) were given to two groups of hospitalized women who were awaiting elective surgical operations. Nausea and vomiting were significantly more frequent and severe after oxymorphone than after morphine. At this dose, oxymorphone produced sedation, dizziness and other typical morphine-like effects as frequently as did morphine. The time action curve of oxymorphone was similar to that of morphine when expressed in terms of subjective effects. (*Keats, A. S., and Telford, J.: Studies of Analgesic Drugs; Comparative Subjective Effects of Oxymorphone and Morphine, Clin. Pharmacol. Ther. 1: 703 (Nov.-Dec.) 1960.*)

PHENAZOCINE The neuropharmacological effects of phenazocine (Prinadol) have been compared to morphine in a variety of laboratory animals, including mice, rats, rabbits, dogs, and monkeys. In general, the neuropharmacologic properties of phenazocine were similar to those of morphine. Phenazocine proved to be more potent than morphine, varying from seven to twenty-five times more potent depending upon which of the responses to narcotics was being studied. (*Tedeschi, D. H., Tedeschi, R. E., and Fellows, E. J.: Analgesic and Other Neuropharmacologic Effects of Phenazocine (NIH 7519, Prinadol) Compared with Morphine, J. Pharmacol. Exp. Ther. 130: 431 (Dec.) 1960.*)

PHENAZOCINE Alveolar carbon dioxide-alveolar ventilation curves were studied before and 60 and 180 minutes after intramuscular doses of 2.5 mg. phenazocine hydrobromide and 10 mg. morphine per 70 kg. in 5 subjects. Phenazocine was shown to be a respiratory depressant of approximately the same magnitude as morphine when given in equivalent analgesic doses. Peak action of phenazocine occurred between 30 and 90 minutes after intramuscular administration, and its action was of longer duration than morphine. (*Papadopoulos, C. N., and Keats, A. S.: Studies of Analgesic Drugs; Comparative Respiratory Depressant Activity of Phenazocine and Morphine, Clin. Pharmacol. Ther. 2: 8 (Jan.-Feb.) 1961.*)

LEVALLORPHAN A total of 391 patients have been observed during labor. Two groups were formed by a method of random selection: 199 patients formed the treated group, who received a combination of alphaprodine (Nisentil) 60 mg. and levallorphan (Lorfan) 1 mg. intramuscularly at two-hourly intervals until the second stage was reached; and 192 patients formed the control group, who received alphaprodine 60 mg. without levallorphan at similar intervals. Facts recorded were pain relief, length of labor, complications of the third stage, side effects, and the condition of the infant at birth. Levallorphan was found to be extremely effective when used to counteract anoxia due to alphaprodine, but it did not appear to influence the results, according to statistical analysis, when combined with alphaprodine. (*Roberts, H., and Kuck, M.: Use of Alphaprodine and Levallorphan during Labour, Canad. Med. Ass. J. 83: 1088 (Nov. 19) 1960.*)

ATROPINE BY MOUTH One hundred and forty-seven children randomly selected were given oral and subcutaneous atropine before anesthesia. Atropine 0.85 mg. was given by mouth or 0.64 mg. subcutaneously, in each case with a barbiturate. The effects upon salivation, pupil size, pulse rate and anesthesia were observed. No differences were found between the two groups. It is concluded that atropine by mouth is satisfactory for premedication. (*Joseph, M. C., and*

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