Anesthesiology
V 44, No 2, Feb 1976

Literature Briefs

Peter J. Cohen, M.D., Editor

Literature Briefs were submitted by Drs. R. B. Clark, P. Cohen, J. Levitt, W. Pender, and J. Tinker. Briefs appearing elsewhere in this issue are part of this column.

Metabolism

LACTIC ACIDOSIS AND NITROPRUSSIDE Idiopathic lactic acidosis continues to be an enigmatic and often fatal condition. The authors describe the use of sodium nitroprusside in a 76-year-old patient with a diagnosis of idiopathic lactic acidosis. The patient had been well until 48 hours prior to admission, at which time congestive cardiomyopathy without evident etiology had developed. This had been successfully controlled with digitalis and diuretics. Approximately 12 hours before admission, shortness of breath had suddenly developed. The patient was disoriented and uncooperative, with a pale and mottled skin. Severe metabolic acidosis, with an arterial lactate level of 20 mEq/l, was present. Physical examination disclosed moist rales, right and left ventricular enlargement, and hepatomegaly. Treatment with sodium bicarbonate, furosemide and aminophylline was instituted, with no change in signs or symptoms. A Swan-Ganz catheter was placed; wedge pressure was markedly elevated, mean right atrial pressure was increased, and cardiac output was normal. The authors felt that there were problems in blood distribution (rather than in total cardiac output) that might be resolved by reducing afterload. Accordingly, sodium nitroprusside was infused at a dose of 0.6 μg/kg/min. Within 15 minutes, systemic arterial pressure and pulmonary wedge pressure decreased, while cardiac output increased slightly. The skin became pink and warm, peripheral pulses were bounding, and urinary output was markedly increased. Metabolic acidosis disappeared. Treatment was continued for five hours, after which the patient made an uneventful recovery. (*Taradash MR, Jacobsen LB: Vasodilator therapy of idiopathic lactic acidosis, N Engl J Med 293:468–471, 1975.*)

ABSTRACTER'S COMMENT: This article again calls our attention to the importance of cardiac work and distribution of cardiac output. I would take issue with the description of this patient as having idiopathic lactic acidosis, since I believe the cause of the metabolic lesion was quite evident.

Hyperthermia

PROCAINE AND MALIGNANT HYPERTHERMIA Various investigators have suggested the use of procaine for the treatment of malignant hyperthermia in man. Three hyperthermia-susceptible Landrace pigs were exposed to halothane; procaine was administered intravenously in two animals as soon as increases in temperature and muscular rigidity were observed. In the control animal, CPK activity and temperature rapidly increased, with death occurring 8 minutes after initial exposure. A second animal received 13 mg/kg procaine, after which serum CPK no longer increased, while temperature decreased slightly. The course of the syndrome was not altered, and death also occurred within 8 minutes. The third pig received 40 mg/kg procaine intravenously. Rigidity persisted, while temperature no longer increased. Twelve minutes later temperature again increased and a further dose of procaine was administered. Temperature continued to increase, and the animal died. The authors feel that lack of success in treatment may cast doubt upon what has been felt to be the primary biochemical lesion of this disease. An alternate explanation is that although procaine is effective *in vitro*, sufficiently high concentrations were not achieved *in vivo* to be successful. (*Mitchell G, Heffron JJA: Procaine in porcine malignant hyperthermia. Br J Anaesth 47:667–668, 1975.*)

Respiratory Care

POSTOPERATIVE RESPIRATORY COMPLICATIONS Forty-seven patients were studied for five days after major upper ab-

dominal surgery to compare the effectiveness in preventing postoperative pulmonary complications of three respiratory maneuvers: chest physiotherapy, "blow bottles," and balloons. The most effective maneuvers are those that emphasize a sustained, deep inspiratory effort. (*Hall B, Hermann RE: Prevention of postoperative respiratory complications, Cleve Clin Q 42:197–201, 1975.*) ABSTRACTER'S COMMENT: Although results from the use of "blow bottles" were better than those after the use of balloon inflation in this small study, both techniques stress use of expiratory effort. For greatest effectiveness, maximum *inspiratory* volumes must be stressed and the patient instructed in achievement of this objective with use of any technique employed.

Spinal Anesthesia

EPIDURAL BLOOD PATCH The authors report a two-year follow-up study of 118 patients treated with epidural blood patch for post-lumbar-puncture headache. Relief of symptoms occurred in 105 patients after the first treatment, and in 11 of 13 patients treated a second time. One patient had facial paralysis four days after a single epidural blood patch; there was gradual improvement, but slight right facial weakness was present six months later. The patient had a family history of neurologic disease; her father had died of multiple scherosis and her brother had cerebral palsy. In a second patient, vertigo, tinnitus, and ataxia without headache developed five days after epidural blood patch. All studies were negative, and symptoms persisted without a diagnosis 15 months later. Another patient had neckache for a week. Nineteen patients had residual backache that persisted 3–100 days. Two patients described occasional pain radiating down both legs. Three patients had repeat regional anesthesia (lumbar epidural, caudal, subarachnoid) without difficulty. Ninety-three of 98 patients considered this form of therapy helpful and would accept it again. Three refused to have it in the future, and two were undecided. (*Abouleish E, and others: Long-term follow-up of epidural blood patch. Anesth Analg (Cleve) 54:459–463, 1975.*)

Education

EFFICACY OF CONTINUING MEDICAL EDUCATION "Mandatory continuing education programs as they are now administered are predictable failures. They don't work! Indeed, they may be harmful." With these iconoclastic words, the authors introduce an article calling attention to data suggesting that continuing medical education has never been proven to influence the quality of clinical practice. They present the hypothesis that methods of education that are primarily pedagogical (reflecting philosophies and techniques of child–youth education) are totally inappropriate to the audience at hand. Forced attendance may not only produce no effect but may actually be detrimental. Suggestions given include "problem-posing" adult education, "open and free teacher–student communication" with abandonment of the classic lecture podium, and joint involvement of teacher and learner. The authors conclude by stating that "continuing education should mean continuing self-education, not continued instruction." (*Libby GN, and others: Help stamp out mandatory continuing education! JAMA 233:797–799, 1975.*)