

BIOCHEMICAL EFFECTS OF OXYGEN

Four healthy males were maintained for 21 days in a slightly hyperoxic environment composed of 100 per cent oxygen at 258 mm. Hg total pressure. Three times a week total serum lactic dehydrogenase and its isozymes, hematocrit, erythrocyte glucose-6-phosphate dehydrogenase, reduced glutathione and glutathione stability were measured. A 17.2 per cent decrease in total lactic dehydrogenase and a relative increase of 31.7 per cent in isozyme 3 was observed, as well as a 9 per cent decrease in hematocrit and slight elevation of glucose-6-phosphate dehydrogenase and reduced glutathione. No increased instability of glutathione was observed. None of these minor changes would contraindicate long-term use of this environment. (Bartek, M. J., Roberts, A. J., and Ulvedal, F.: *Study of Man During a Prolonged Exposure to Oxygen at 258 mm. Hg Total Pressure: Supplemental Biochemical Monitoring*, *Aerospace Med.* 38: 1037 (Oct.) 1967.)

POSTOPERATIVE RESPIRATORY CARE In a series of 202 patients studied postoperatively, only three were found to have apnea due to overdosage of succinylcholine. On admission to the unit, however, 3 per cent of elective patients and 7 per cent of emergency patients were thought to have apnea as a result of overdosage with a muscle relaxant. On investigation it was found that in most of these patients unrecognized metabolic, cardiovascular or respiratory diseases were the main causes of apnea. No death resulted from the prolonged ventilation required as therapy in these patients. (Campbell, D., and others: *Some Clinical Aspects of Respiratory Intensive Care*, *Brit. Med. J.* 1: 475 (Feb.) 1968.)

POSTOPERATIVE PULMONARY COMPLICATIONS Prophylactic treatment with penicillin and streptomycin reduced by more than 50 per cent the incidence of serious postoperative pulmonary complications in 132 good-risk male patients undergoing upper abdominal surgery. In these patients bronchodilator therapy did not produce significant improvement. Older patients had a higher incidence of postoperative pulmonary complications but moderate emphysema or chronic

bronchitis *per se* did not increase the incidence. (Collins, C. D., and others: *Chest Complications after Upper Abdominal Surgery: Their Anticipation and Prevention*, *Brit. Med. J.* 1: 401 (Feb.) 1968.)

RESPIRATORY FAILURE Ventilation of patients with severe bronchial obstruction may necessitate the use of high inflation pressures held for several seconds. Pressures of 50 cm. H₂O or greater may be needed. In the presence of airway obstruction, high ventilating pressures are not transmitted to the pulmonary parenchyma and hypotension does not occur from impairment of venous return. Pressure-regulated respirators cannot ventilate such patients adequately; volume-regulated respirators must be used. (Neal, T. F., Jr., and others: *Treatment of Bronchospasm in Respiratory Failure by Sustaining the Positive Phase of the Intermittent Positive Pressure*, *Amer. Rev. Resp. Dis.* 97: 211 (Feb.) 1968.)

BLOOD CHEMISTRY IN NEAR-DROWNING Twelve human near-drowning victims were treated and their clinical courses were studied, with particular attention to electrolyte and blood gas changes. Ten of the patients made complete, uneventful recoveries. The primary pathophysiological disturbance which necessitated emergency therapy was acute asphyxia with persistent arterial hypoxemia and acidosis. Initially the hypoxia appeared to be due to perfusion of nonventilated alveoli. Persistent arterial hypoxemia was present, however, even after a significant intrapulmonary shunt could no longer be demonstrated. (Modell, J. H., and others: *Blood Gas and Electrolyte Changes in Human Near-Drowning Victims*, *J.A.M.A.* 203: 337 (Jan.) 1968.)

ARTERIAL-TRACHEAL FISTULA

Among the complications of tracheotomy is the development of a fistula between the trachea and a blood vessel. In 75 per cent of cases, the innominate artery is involved. Other vessels which may be eroded are the carotid artery, thyroid artery, innominate vein, and aortic arch. Apparently, proper placement of the tracheotomy tube does not preclude this complication. In the case reported, hemor-