

terminal bronchiole serving a single respiratory unit was determined in cats. The right lower lobe was isolated and ventilated with 100 per cent nitrogen, a mixture of 90 per cent nitrogen and 10 per cent carbon dioxide, and 10 per cent carbon dioxide in air. The remainder of the lung was ventilated with 100 per cent oxygen. Measurements of the internal diameters of the small arteries were made after rapid freezing of the lung. A highly significant decrease in diameter of these small arteries correlated well with the decrease in flow to the lobe during hypoxia. Ten per cent carbon dioxide did not effect artery size nor did ligation of the pulmonary artery to the right lower lobe. These studies indicate that the perfusion of each terminal respiratory unit is regulated by the oxygen content of that unit with hypoxia causing constriction of the small muscular artery perfusing that unit. (Kato, M., and Staub, N. C.: *Response of Small Pulmonary Arteries to Unilateral Hypoxia and Hypercapnia*, *Circ. Res.* 19: 426 (Aug.) 1966.)

CO₂ GRADIENTS Arterio-alveolar carbon dioxide differences were determined in 9 healthy subjects during anesthesia with 1 per cent halothane. Pulmonary arterial pressures and systemic pressures were recorded simultaneously. During the investigations, pulmonary arterial pressures were changed either by rapid infusion of 1,000 ml. saline solution or by tilting the patients in head-up or head-down position. A linear relation between the pulmonary arterial mean pressure and the arterio-alveolar CO₂ difference was found, irrespective of how the mean pulmonary arterial pressure was changed. The increased arterio-alveolar gradient for CO₂ during anesthesia can be explained by a marked reduction of pulmonary capillary blood flow in the uppermost part of the lung, a reduction which is caused by a drop in pulmonary perfusion pressure. (Askrog, V.: *Relationship of Arterio-alveolar CO₂ Difference and Blood Pressure in the Pulmonary Artery during Halothane Anesthesia*, *Der Anaesthetist* 15: 213 (July) 1966.)

CARDIOVASCULAR TESTING A standard Valsalva maneuver is used as a circula-

tory stress to evaluate cardiovascular function in man before and after thermal stress. The Valsalva maneuver is found comparable to a standard tilt test. (Craig, A. B.: *Valsalva Maneuver: Possible Use in Space Flight as a Test of Cardiovascular Function*, *Aerospace Med.* 37: 687 (July) 1966.)

ABTRACTOR'S COMMENT: This standard Valsalva maneuver might be a useful clinical evaluation of cardiovascular function in anesthetized patients.

BETA BLOCKADE Selective alpha and beta stimulation and blockade was studied as to its effect upon fatty acid mobilization and circulatory response. Beta stimulation with isoproterenol produced tachycardia and a rise in free fatty acids (FFA). Blood glucose was unchanged. Pretreatment with propranolol (beta blocker) abolished these effects of isoproterenol whereas pretreatment with phenoxylbenzamine did not block the effects of isoproterenol. Methoxamine (alpha stimulation) produced an increased arterial pressure and no effect upon FFA or blood glucose. These results support the hypothesis that adrenergic influence over circulating levels of FFA is mediated by the beta adrenergic receptors. (Harrison, D. C., and others: *Metabolic and Circulatory Responses to Selective Adrenergic Stimulation and Blockade*, *Circulation* 34: 218 (Aug.) 1966.)

POSTPERFUSION SYNDROME Of 380 patients who underwent major cardiovascular surgery utilizing cardiopulmonary bypass, 19 developed signs, symptoms and laboratory findings of the "postperfusion syndrome." The syndrome consisted of a relative lymphocytosis, with atypical lymphocytes similar to Downey cells appearing in the peripheral blood, splenomegaly of a minor degree and fever with temperatures of 100° to 103° F. Occasionally hepatomegaly with transient abnormal liver function tests was also present. Signs and symptoms appeared from 14 to 37 days postoperatively and lasted 1 to 4 weeks. Although the syndrome closely resembled infectious mononucleosis, agglutination tests were not diagnostic for that disease. The etiology is not known. It is probably not re-