

blood flow greater than 50 per cent. Blood flow was measured proximal to the site of injection with a square-wave electromagnetic flowmeter probe. The simultaneous injection of magnesium sulfate (4 mEq/ml) in graded amounts resulted in reversal of vasoconstriction produced by all of the above drugs. In each of the remaining six dogs, one of three vasopressor agents, nonepinephrine (16 mg/l), angiotensin (1 mg/l) or pitressin (20 units/l), was infused intravenously until a sustained systolic blood pressure of 180 to 200 mm Hg or a decrease in renal blood or urine flow, or both, resulted. Infusion of magnesium ion (0.8 to 4 mEq/ml) into the left renal artery prior to or after pressor administration selectively reversed the reductions in blood flow, urinary volume and sodium excretion in the left kidney. It is concluded that magnesium ion is a potent inhibitor of vascular constriction produced by adrenergic and nonadrenergic mediators. (Lecowitz, B. S., and others: *Magnesium Ion Blockade of Regional Vasoconstriction*, *Ann. Surg.* 172: 33 (July) 1970.)

Respiration

AEROSOL CONTAMINATION An outbreak of *Serratia marcescens* nosocomial infections was initiated and propagated by inhalation therapy medication given by aerosol. There were 655 bacterial isolates from 374 patients during a ten-month period: 50.4 per cent of isolates were from sputum, 24.5 per cent from urine, and the remainder from wounds, blood, and miscellaneous sites. Forty-three per cent of a random sample of opened bottles were contaminated with *S. marcescens*, and viable bacterial counts reached 10^7 organisms/ml. (Sanders, C. V., Jr., and others: *Serratia marcescens* Infections from Inhalation Therapy Medications: Nosocomial Outbreak, *Ann. Intern. Med.* 73: 15 (July) 1970.)

ALVEOLAR CAPILLARY BLOCK The authors studied ten patients thought to have alveolar capillary blocks because of dyspnea, hyperventilation and low arterial P_{CO_2} , cyanosis on exertion, rales at the lung bases, and abnormal chest roentgenograms while each patient was breathing four different inspired oxygen mixtures. Data were interpreted using

the principle of the Bohr integral isopleth, making it possible to determine the distribution of ventilation and perfusion, diffusing capacity, lung volume, and alveolar and end-capillary blood oxygen tensions in the variously functioning parts of the lung. In two patients shunts were the major factor interfering with oxygen transfer. In four patients inequalities in ventilation-perfusion ratios and in diffusing capacity in different parts of the lung were the factors interfering with oxygen transfer. In the remaining four patients the only disturbance in oxygen transfer was in the total diffusing capacity. A decrease in the diffusing capacity may cause blood-gas disturbances, but the degree of arterial oxygen unsaturation is mild. (Arndt, H., King, T. K. C., and Briscoe, W. A.: *Diffusing Capacities and Ventilation-Perfusion Ratios in Patients with the Clinical Syndrome of Alveolar Capillary Block*, *J. Clin. Invest.* 49: 408 (Feb.) 1970.)

ALVEOLAR CAPILLARY BLOCK Alveolar capillary blocks were found in four patients with interstitial pneumonitis and one with severe silicosis who desaturated with exercise. The authors did pulmonary function tests and studies of regional pulmonary blood flows and regional ventilation using ^{133}Xe in these patients, six patients with less severe silicosis, and 11 normal controls. Regional ventilation was normal in every subject studied. The five patients with A-C block and more uniform ventilation-blood flow ratios in the apices and bases of the lungs than did the six patients with silicosis or the 11 normal controls. That is, the decreasing ventilation-blood flow ratio from apex to base which occurs normally was not found in the patients with A-C block. Right-to-left shunts of 4 per cent were present in both silicosis and A-C block patients. Single-breath carbon-monoxide diffusing capacities were decreased in the A-C block patients and correlated with alveolar-arterial oxygen differences. A-C block can result from a reduction in total area available for diffusion as well as from thickening of the alveolar membranes. (Renzetti, A., and others: *Regional Ventilation and Perfusion in Silicosis and in the Alveolar-Capillary Block Syndrome*, *Amer. J. Med.* 49: 5 (July) 1970.)