

BRIEFS FROM THE LITERATURE

JOHN W. PENDER, M.D., *Editor*

Suggestions and criticisms for increasing the effectiveness and appeal of this new section will be welcomed by Dr. John W. Pender, 300 Homer Avenue, Palo Alto, California.

FIRST THINGS FIRST The wise men of antiquity, when they wished to make the whole world peaceful and happy, first put their own states into proper order—before putting their states in proper order, they regulated their own families—before regulating their families, they regulated themselves—before regulating themselves, they tried to be sincere in their thoughts—before being sincere in their thoughts, they tried to see things exactly as they were. (*Confucius.*)

LOCAL ANESTHESIA Local anesthesia should not produce residual disturbances of sensation. Damage to nerve fibers produced by hypertonic solution or by mechanical effects of the needle used to inject the local anesthetic solution may produce disturbances of sensation which outlast the duration of the anesthetic effect. It has been suggested that postanesthetic paresthesias may be produced by the use of high concentration of vasoconstrictor in the anesthetic solution, since intense and prolonged vasoconstriction is thought to prevent adequate oxygen supply to the nerve fibers. Epinephrine in a concentration of 1:100,000 will increase the duration of anesthesia produced by $\frac{1}{4}$ per cent solution of procaine about ten times. Levarterenol 1:25,000, phenylephrine 1:2500, nordefrine (Cobefrine) 1:10,000 are equipotent with epinephrine 1:100,000 in prolonging local anesthesia. (*Notes and Abstracts: Local Anesthetic Drugs in Dentistry, Mod. Hosp. 88: 104 (April) 1957.*)

JOSEPH PRIESTLEY Lavoisier was unaware of Priestley's observations on "fixed air" (carbon dioxide) and nitrous oxide when he made his experiments. Both made their discoveries in the year 1772 but

actually published their findings in 1773, although Priestley had a privately published preprint out in November, 1772, titled "Observations on Different Kinds of Air." (*Querlac, H.: Joseph Priestley's First Papers on Gases and Their Reception in France, J. Hist. Med. & Allied Sc. 12:1 (Jan.) 1957.*)

FETAL ELECTROCARDIOGRAM The effects of anoxia and fetal distress in labor, postmaturity and toxemia on the fetal electrocardiogram are discussed. Early ST-segment depression in leads I and II, prolongation of the ST segment, and inverted T waves were shown to be diagnostic of fetal anoxia and occurred before clinical bradycardia. The potential use of intrauterine electrocardiography as a diagnostic procedure for fetal anoxia is discussed. (*Southern, E. M.: Fetal Anoxia and Its Possible Relation to Changes in Prenatal Fetal Electrocardiogram, Am. J. Obst. & Gynec. 73: 233 (Feb.) 1957.*)

AFIBRINOGENEMIA Analysis was made of fibrinolytic and fibrinogenolytic enzymes in the blood of ten patients with obstetrical afibrinogenemia. All patients showed some enzymatic destruction of fibrin or fibrinogen. This enzymatic destruction is postulated as the cause of the afibrinogenemia. Intravenous fibrinogen was used to control abnormal bleeding. (*Phillips, L. L., Montgomery, G., Jr., and Taylor, H. C., Jr.: Role of Fibrinolytic Enzyme System in Obstetrical Afibrinogenemia, Am. J. Obst. & Gynec. 73: 43 (Jan.) 1957.*)

ARTIFICIAL KIDNEY Currently used artificial kidneys remove retention products from the blood. This is accomplished by exchange across a semipermeable membrane.

Unfavorable reactions include pyrogenic reactions from the cellulose, leukopenia, and thrombocytopenia, hemolysis, changes in blood pressure, hemorrhage, postdialytic oliguria, and overloading with sodium from the rinsing fluid. Indications for the use of this instrument include: acute tubular nephrosis, hemoglobinuric and myohemoglobinuric nephrosis (the most frequent cause of free hemoglobin is an incompatible blood transfusion), nephrosis owing to specific renal toxins, acute glomerulonephritis, acute obstruction of the ureters, acute pancreatitis, the hepatorenal syndrome, acute renal failure supervening on existing renal disease, chronic uremia, intractable edema, and intoxications with primary nephrotoxic chemicals. (Kolff, W. J.: *Artificial Kidney*, *Circulation* 15: 285 (Feb.) 1957.)

ARTIFICIAL KIDNEY The authors give a description of their apparatus and an account of their experience based on 300 applications of dialysis. In a group of 62 postabortion patients treated conservatively, the mortality rate was 70 per cent in contrast to the mortality rate for a group of 62 postabortion patients treated with the artificial kidney which was 8 per cent. The mortality rate in anuria following transfusions of incompatible blood (19 cases) was 5 per cent as compared to the mortality rate of about 65 per cent reported by other authors who had not used the artificial kidney. The indications for dialysis are acute renal insufficiency in cases in which concentrations of urea are more than 350 mg. per 100 ml. of blood or in which severe electrolyte disturbances exist. Often one application of dialysis will produce a rapid convalescence, but sometimes two, three or four applications may be necessary. In cases of chronic renal insufficiency, the indications for dialysis should be limited to acute exacerbations of the disease or to the preparation of patients who will undergo surgical procedures for the improvement of renal function. (Hamburger, J., and Richet, G.: *Artificial Kidney*, *Bull. Acad. nat. méd.* 141: 12, 1957.)

PERORAL ENDOSCOPY For laryngoscopy, light general anesthesia (sodium Pentothal-nitrous oxide-Anectine) is being superimposed upon an already satisfactory topical anesthesia. Topical anesthesia plus

endotracheal anesthesia is being employed for esophagoscopy. (Eversole, V. H.: *Anesthesia for Peroral Endoscopy*, *Surg. Clin. North America* (June) 1956, p. 641.)

TETANUS THERAPY The "old therapeutic regimen" (sedation, antitetanus serum) carried a mortality of 27.2 per cent; addition of intravenous mephenesin and antibiotics reduced it to 18.2 per cent; additional drug-induced hibernation raised it to 52.3 per cent. (Veroness, R.: *Clinical Observations on 712 Cases of Tetanus Subject to Four Different Methods of Treatment*, *Am. J. M. Sc.* 232: 629 (Dec.) 1956.)

MAXILLO-FACIAL INJURIES Tracheotomy is almost invariably indicated in the severe injury, if not for the restoration of the airway, then certainly for the route of the anesthesia. Although local anesthesia alleviates many of the airway problems, it is not suitable in most instances. Of 1,305 injured patients treated over a five-year period, local anesthesia was administered to 885, general anesthesia to 283, and no anesthesia to 137. (Walden, R. H., and Bromberg, B. E.: *Recent Advances in Therapy in Maxillo-facial Bony Injuries in Over 1,000 Cases*, *Am. J. Surg.* 93: 508 (April) 1957.)

SPARE PARTS The technical aspects of using homografts are not insurmountable except for the barrier of the immunologic reaction of the host. Except in single ovum twins, the use of blood, bone, cartilage, blood vessels, corneas, fascia, and skin is a mechanical or physiologic aid to tide over an emergency. The solution to the problem of homograft survival rests on active acquired tolerance to tissues of another individual. This can occur in fetal life producing a chimera. In an adult the active immunologic response to antigen may be reduced or paralyzed by radiation or chemotherapy. Further investigations with improvements in techniques may make possible successful homografts in man. (Ferrebee, J. W., and Merrill, J. P.: *Spare Parts; Review with a Forward Look*, *Surgery* 41: 503 (March) 1957.)

BLOOD TRANSFUSION REACTIONS To avoid allergic reactions, it is recommended that fasting donors with no