of a muscle to tetanization is a more useful indication of mechanical performance than the single-twitch response.

## References

- Churchill-Davidson, H. C., Christie, T. H., and Wise, R. P.: Dual neuromuscular block in man, ANESTHESIOLOGY 21: 144, 1960.
- Katz, R. L., Wolf, C. E., and Papper, E. M.: The nondepolarizing neuromuscular blocking action of succinylcholine in man, ANESTHESI-OLOCY 24: 784, 1963.
- Crul, J. F., Long, C. L., Brunner, E. A., and Coolen, J. M. W.: The changing pattern of neuromuscular blockade caused by succinylcholine in man, ANESTHESIOLOGY 27: 729, 1966.
- Zaimis, E.: Motor end-plate differences as a determining factor in the mode of action of

- neuromuscular blocking substances, J. Physiol. 122: 238, 1953.
- Zaimis, E.: General physiology and pharmacology of neuromuscular transmission. In Walton, J. N. (ed.): Disorders of Voluntary Muscle. London, J. & A. Churchill, 1964, p. 46.
- Hall, R. A., and Parkes, M. W.: The effect of drugs upon neuromuscular transmission in the guinea pig, J. Physiol. 122: 274, 1953.
- Poulsen, H., and Hougs, W.: The effect of some curarizing drugs in unanaesthetized man, Acta Anaesth. Scand. 1: 15, 1957.
- Karis, J. H., Gissen, A. J., and Nastuk, W. L.: The effect of volatile anesthetic agents on neuromuscular transmission, ANESTHESIOLOGY 28: 128, 1967.
- Katz, R. L., and Gissen, A. J.: Neuromuscular and electromyographic effects of halothane and its interaction with d-tubocurarine in man. ANESTHESIOLOGY 28s 564, 1967.

## Anesthesia

"AWAKE" CANNULATION In the course of surgical treatment of severely ill cardiac patients, the period between induction of general anesthesia and establishment of cardiopulmonary bypass following thoracotomy is a critical one. A technique was devised to protect the patient during that period. Femoral vessels were exposed bilaterally under local or continuous peridural (level of T<sub>12</sub>) analgesia. Cannulae were inserted through femoral veins into the right atrium and inferior vena cava. One femoral artery was cannulated and the other ligated. Cardiopulmonary bypass could thus be instituted at any time if circulatory failure occurred. General anesthesia was then induced and the operative procedure started. This technique was used in 20 severely ill patients with no deaths prior to the definitive surgical procedure. (Danielson, G. K., Hasbrouck, J. D., and Bryant, L. B.: Cannulation Under Local or Regional Anesthesia for the "Salvage" Cardiac Patient, J. Thorac. Cardiov. Surg. 55: 864 (June) 1968.)

PARACERVICAL BLOCK Varying incidences of fetal bradycardia and depression at the time of birth have been reported after paracervical block for pain relief in the first stage of labor. This report describes the dealts of two infants following mepivacaine paracervical block. The first experienced prolonged bradycardia unmodified by maternal oxygen administration and was stillborn. The second had bradycardia which coincided with maternal analgesia and died at 45 hours of age after repeated episodes of convulsions. Chromatographic analysis of this infant's urine at 36 hours revealed 6.2 μg/ml mepivacaine. Rapid passage of mepivacaine into the fetal circulation and impaired detoxification during the newborn period may have produced high fetal blood levels of mepivacaine. (Rosefsky, J. B., and Petersiol, M. E.: Perinatal Deaths Associated with Mepivacaine Paracervical Block Anesthesia in Labor, New Engl. J. Med. 278: 530 (March) 1968.)