ABSTRACTS

Editorial Comment: Material for this section is not abstracted in a uniform style. Many employ direct quotations only. Others are written in the more conventional form. At times there may be included a few opinions, personal to the abstractor, which, where they appear, will be bracketed or labeled "Comment." The Editorial Office continues in its desire to receive correspondence from readers relative to the management of this section.

GREEN, M. W.; VEITCH, F. P., AND KOPPANYI, THEODORE: *Studies on the Barbiturates. XXVI. The Use of Lloyd's Reagent in the Quantitative Estimation of Barbiturates in the Urine.* J. Am. Pharm. A., Scient. Ed. **32**: 309–311 (Nov.) 1943.

"The estimation of barbiturates in urine by the Koppanyi test as originally developed may be rendered difficult by the presence of chromogens in chloroform or ether extracts of urine which tend to mask the color developed, and by the actual reaction of the cobalt reagent with certain other substances, to produce colored complexes. . . . This investigation was undertaken with the purpose of producing chloroform or ether extracts of urine free from chromogens, and to show how reactions due to substances other than barbiturates may be eliminated. . . . The determination of barbiturates in the urine is rendered more precise by the use of Lloyd's reagent which adsorbs pigments and other chromogens without removing the barbiturates. The cobalt-isopropylamine test has been adapted to spectrophotometric estimation of barbital, and it has been shown that the test obeys Beer's law in concentrations up to 30 mg./100 cc. The following directions represent the most recent modification of the detection and estimation of barbiturates in the urine. (*a*) Add 5 cc. of a 5 per cent solution of sulfuric acid and 2 Gm. of Lloyd's reagent to 20 cc. of urine in an Erlenmeyer flask. Shake thoroughly for 10 min. (*b*) Filter and shake an aliquot of filtrate with at least 10 volumes of ether in equally divided portions. (*c*) Evaporate the combined ether extracts and dissolve the residue in a convenient volume of chloroform. (*d*) Test the chloroform extract for barbiturates in a standard colorimeter or spectrophotometer using methods previously prescribed." 8 references.

J. C. M. C.

HERSHEY, S. G., AND APOGI, EVELYN: *The Anesthetic Management of Aged Patients with Fractured Neck of the Femur.* New York State J. Med. **44**: 183–188 (Jan. 15) 1944.

"Fracture of the femur is among the more common conditions for which surgery is undertaken for the aged. . . . Although the tendency toward early operation is growing, surgery is generally delayed until the patient's condition is satisfactory or improving. Shock is treated. Fluid-electrolyte balance, cardiac and renal status are appraised and appropriately handled. This care is extended to the postoperative period. . . . The various problems the anesthetist must solve satisfactorily might be listed. These are: (*a*) pain relief, (*b*) protection against uncomfortable positions and restlessness, (*c*) adequate muscular relaxation, (*d*) maintenance of normal physiological functions, especially in the presence of

complications, (e) possibility of explosions with x-ray apparatus. . . . Nitrous oxide can be administered safely and satisfactorily. It must be avoided when sufficient relaxation cannot be achieved without some degree of hypoxemia. . . . The frequency of pre-existing systemic disease requires that ether be used with caution. . . . Ether may often be the agent of choice for patients with heart disease. Cyclopropane has many advantages for this group of patients. . . .

"Local infiltration, if done properly, will secure pain relief at the operative site. Complete muscular relaxation, however, may not always be obtained. Excessive sedation is likely to be required. Pain, restlessness, and agitation may not only lengthen the operative procedures, but may become a factor in the onset of shock. There are some stolid patients to whom these objections do not apply. Spinal anesthesia will provide muscular relaxation but the patient is still conscious and may become restless and disturbed. . . . Avertin . . . is a basal anesthetic and must be followed by an additional agent. Postoperatively, because of its slow detoxification, there is a more prolonged period of sleep and inactivity, which is not desirable in the elderly patient, since this predisposes to respiratory morbidity. . . . The use of intravenous anesthesia with the rapidly acting thiobarbiturates . . . does not invariably provide good muscular relaxation, depresses respiration, and must be detoxified in the body. Its use has not generally been advised for lengthy procedures in elderly patients, as the total dosage required may be relatively large. Combination of several agents probably adds no safety to this operative procedure. . . . Regional, rectal, and intravenous anesthetics possess the advantage of being non-inflammable or nonexplosive. Inhalation agents are either inflammable, explosive, or aid combustion. X-ray equipment is part of the surgical setup. . . .

"The role of preoperative sedation cannot be overemphasized. Morphine and scopolamine in the ratio of 1:25 is ordinarily a good choice. Dosage should be moderate to avoid the excessive depression so easily obtained in the elderly. Morphine should be given cautiously to diabetic and asthmatic patients. A short-acting barbiturate may be added for apprehensive patients. Recent observations suggest the use of Demerol in places of morphine. . . . In this series [173 cases] all fatalities averaged 6.3 per cent, and what seems striking is a 3.7 per cent death rate for those cases done with inhalation anesthesia. . . . With careful anesthetic management, operation under inhalation anesthesia was well tolerated by these elderly people. There were no deaths in the operating rooms. Postoperative morbidity was low and the rate of mortality favorable. No attempt was made to select this group for special care or supervision. . . . Anesthesia in the aged remains a serious problem. Progress has been achieved by developing general medical care and specific surgical technics. Further improvement is likely if anesthetic management is based on the physiological requirements of the patient, and knowledge of the effects of the anesthetic agents in the presence of pre-existing disease. In this group of patients inhalation anesthesia seemed to meet these requirements." 6 references.

J. C. M. C.

KRANTZ, J. C., JR.; CARR, C. J.; HORNEY, A. G., AND EVANS, W. E., JR.: *Anesthesia: IX. The Anesthetic Action of Isopropenyl Vinyl Ether.* J. Pharmacol. & Exper. Therap. **79**: 179–185 (Oct.) 1943.

"In a former communication the authors reported studies on the anesthetic