

as the relaxing agent in conjunction with soluble thiopentone, nitrous oxide, oxygen, and in several cases cyclopropane. In these cases relaxation was undoubtedly obtained at a lighter level of anesthesia than would have been possible with these agents alone. When the thiopentone, nitrous oxide, oxygen technic was used, myanesin increased the duration of effect of the anesthetic without deepening it. . . . Irrespective of the anesthetic agent chosen, the incidence of postoperative vomiting was lower than where myanesin had not been used.

"Even in the very young the veins in the antecubital fossa, though small, are remarkably easy of access. Very often veins on the dorsum of the hand, wrist and round the internal malleolus are of surprisingly large calibre. . . . Particular care must be taken in children to avoid intra-arterial injection." No references.

E. J. G.

BROWN, RAY: *Osteomyelitis of the Spine Secondary to Paravertebral Block*. U. S. Army Med. Bull. 8: 391-396 (May) 1948.

Two cases of vertebral osteomyelitis secondary to lumbar paravertebral novocain block are presented. To the author's knowledge, the two cases reported here are the first cases of osteomyelitis of the spine secondary to lumbar paravertebral blocks.

Case 1 received a left lumbar sympathetic block in the region of the ganglion of the third lumbar nerve, and three hours later developed a severe pain in the lumbar region. Spasm of the back muscles and back pain persisted and twenty days later his temperature suddenly rose to 103 F., he had a chill, and he vomited. The patient responded to penicillin therapy but maintained a poker-like rigidity of the back with marked spasticity of the erector spinae muscles. Fourteen

days later x-rays of the lumbar spine showed irregular destruction of the adjacent portions of the bodies of the second and third lumbar vertebrae. The patient was continued on penicillin and later immobilized in a plaster cast.

Case 2 received eight lumbar sympathetic blocks because of shell fragment wounds. One of the injections caused him intense pain. Following three months of orthopedic surgery, x-rays of the lumbar spine showed narrowing of the first lumbar interspace with cavitation of the body of the first lumbar vertebra.

In both cases bony destruction with evidences of new bone formation occurred early. Spontaneous fusion occurred in five months in case 1 and in ten months in case 2. 5 references.

J. B. G.

SLOCUM, H. C., AND ALLEN, C. R.: *Anesthesia Services for The Texas City Disaster Patients*. South. M. J. 41: 344-346 (Apr.) 1948.

"The Texas City disaster occurred at 9:12 a.m., on April 16, 1947. Within half an hour the first casualties were brought to the hospitals of Galveston.

"As the patients were admitted (The John Sealy and affiliated hospitals of the University of Texas Medical Branch), they were classified into three groups, namely: orthopedic, plastic and general surgery, according to the type of injury. Each patient went through a general shock ward where preliminary treatment was given for shock, hemorrhage, and infection. In this ward the most seriously wounded were listed for immediate surgery, if indicated, and the patient's condition warranted. All patients were permitted to recover from shock unless disruption of a large blood vessel required immediate attention.

"Blood, plasma, fluids, oxygen and chemotherapy were used freely. An intravenous infusion of some type was

started on each patient. Most patients had received 10 to 30 mg. of morphine and as a circulatory balance was restored, many showed signs of morphine depression about the time they were ready for an operative procedure.

"Of the 300 patients admitted, 114 required one or more surgical procedures. Most patients had multiple injuries which included compound fractures, sucking wounds of the chest, spinal cord trauma, traumatic amputations, deep muscle wounds, ruptured ear drums, eye injuries, and all types of skin, muscle, and nerve lacerations. Only 3 patients had second degree burns.

"The Department of Anesthesiology functioned in the service of shock, fluid, and oxygen therapy, as well as surgical analgesia and anesthesia. During the first sixty hours, 10 surgical teams functioned in rotation to perform about 91 major operative procedures. Five to seven operating tables were kept busy during this period. With the assistance of several staff men, the regular members of the Anesthesiology staff were able to handle all procedures in the main hospital. Sixteen cases of suspected gas gangrene were handled by an assisting army medical unit and anesthesia service was provided by physicians of the McKinney (Texas) Veterans Unit.

"Patients not in shock received for induction of anesthesia 0.4 per cent 'pentothal' introduced into the intravenous drip tubing. As soon as the patient was anesthetized, the 'pentothal' was discontinued and 50 to 75 per cent nitrous oxide with oxygen was used for maintenance. The large amounts of morphine administered during the first aid treatment and pending circulatory depression or shock precluded deep anesthesia.

"The patients in very serious condition received light cyclopropane anesthesia and were intubated as indicated.

"Open drop ether was used in two instances and in each case the reaction in the second stage of anesthesia was violent. These reactions gave an indication of the very severe psychic trauma imposed upon many of the disaster victims.

"The duration of the operative procedures was from thirty minutes to seven hours with an average of one hour and ten minutes over all. Many patients had from one to five operations. It was noticeable during subsequent operations that the resistance of the circulatory and autonomic nervous systems to surgical and anesthetic insult was much less in the immediately succeeding days after the injury and original operation.

"In a group of 213 anesthetics administered, 139 received 'pentothal' and nitrous oxide, or cyclopropane. Sixty-six operations were done under local. Four received blocks and four spinals. Spinal anesthesia was used only for the succeeding reconstructive procedures.

"Of the patients admitted to the John Sealy Hospital, 17 died. Of this group 9 had operations and received one or more anesthetic administrations. One patient died on the table.

"From our observations of the seriously injured patients who received one or more anesthetic administrations the following conclusions were reached.

"(1) Morphine administered to a patient in shock at the time of injury may not become effective until the circulatory status is improved. At this time it may become a serious respiratory and circulatory depressant due to too rapid absorption.

"(2) Small amounts of 0.4 per cent 'pentothal' administered to patients of borderline shock status do not impair respiratory or cardiovascular function.

"(3) The more complicated operative procedures on critically injured

patients can be accomplished under inhalation anesthesia. Our choice in these cases was cyclopropane and oxygen.

"The anesthesiologist contributed only a small part to the care of the Texas City disaster victims. The important fact is that the anesthesia services rendered were vital. These services are organized to cooperate with all other general and specialty groups in the University of Texas Medical Branch." No references.

E. J. G.

WILLIAMS, O. C.: *Intravenous Ether (Diethyloxide) Used in the Treatment of Cases of Impending Gangrene and Impaired Circulation*. New Orleans M. & S. J. (Apr.) 1948.

Stimulated by the work of Katz on the use of ether intravenously in the treatment of impending ischemic gangrene, the author used the method in 22 cases of a similar nature. A 2½ per cent solution of ether was used, the daily dose being 25 cm. of stock ether in 1000 cm. of 5 per cent glucose or normal saline solution. A series of 12 such injections constituted a course of treatment.

Thorough studies, including numerous laboratory tests, were done on all cases before and after a course of treatment. No detrimental effects were demonstrated.

The 22 cases included thromboangitis obliterans, diabetic ischemic limb, arteriosclerosis, hypostatic ulcer, neurodermatitis and neuritis. Good results were obtained in 17 cases, fair results in 3 cases and poor results in 2 cases. The only side effects from treatment were emesis (2 cases) and extravasation of solution (1 case).

Relief from pain was one of the most gratifying findings. The treatment was not unpleasant to the patient and was considered safe in the dilution of

ether used. It can be given while patients are being prepared for surgery, if and when this becomes necessary. The author considers ether given intravenously a valuable agent if cases are carefully observed and evaluated prior to treatment. 1 reference.

C. C. L.

FINO, J. A., AND EISAMAN, J. R.: *Combined Local Infiltration Anesthesia and Pentothal Sodium Anesthesia in Cesarean Sections*. Am. J. Obst. & Gynec. 55: 887-890 (May) 1948.

The authors have combined local anesthesia and nitrous oxide analgesia with intravenous pentothal sodium in cesarean sections. Pentothal sodium is of choice because of its rapid, smooth induction and its relative safety as an anesthetic agent when properly used.

In such complications as placenta previa, toxemias, fetal distress and disproportion, in the presence of an upper respiratory infection, the authors have used a simplified technic of local infiltration anesthesia associated with intravenous pentothal sodium.

One per cent novocaine with adrenalin is used. The operative site is directly infiltrated with novocaine to include the dermis. Subcutaneous tissues are infiltrated down to the fascia; the fascia is infiltrated. The skin is incised to the fascia, hemostasis assured and the fascia incised. The recti muscles are infiltrated laterally to the outer borders of their sheaths. The peritoneum is directly infiltrated with novocaine. The peritoneum is incised and the preperitoneal tissues laterally, including the posterior portion of the rectus sheath, are again infiltrated. Upon exposure of the uterus, pentothal anesthesia is started and the uterus opened.

The technic was applied to a group of 40 patients. The length of time from the beginning of the infiltration