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BROWN, W. W., JR.: Meningitis Following Continuous Caudal Anesthesia. Am. J. Obst. & Gynec. 53: 682–683 (Apr.) 1947.

A 23 year old gravida iii, para ii, was admitted to the hospital four hours after the premature onset of labor. Candal anesthesia by the eatheter technic was begun two hours after admission. Green soap, alcohol and zephiran chloride solution were used in the skin preparation. A No. 4 plastic catheter was inserted into the caudal canal through a No. 16 gauge needle. Waterproof adhesive was used to secure the eatheter. The absence of spinal anesthesia was demonstrated by injecting 10 cc. of 1.5 per cent metycaine solu-Four additional injections of metycaine solution, totalling 75 cc., were made during the next two and one-quarter hours. The anesthetic was discontinued but the eatheter was left in place when labor did not progress. The patient was restless and seemed more agitated than the severity of the labor pains warranted. When complete dilatation was attained and the head was on the perineal floor, 25 cc. of 1.5 per cent metycaine solution was instilled, making the total 100 cc. or 1.5 Gm, of metycaine in five instillations

Twenty-four hours after removal of the caudal catheter the temperature suddenly rose to 104 F, and the pulse rate to 100. Nuchal rigidity, hyperactive reflexes, flexure movements of ankle, knee and hip upon passive flexion of the neck were present. Moderate tenderness and hyperemia were present over the presacral area. Spinal fluid was cloudy and under increased pressure. The cell count was 3,000 per ce, and all of them were polymorphonuclear leucocytes. No organism grew on usual laboratory culture media but a smear showed gram positive cocci. Treatment was started with 10,000 Oxford units of penicillin intrathecally 50,000 intramuscularly, and 5 Gm. of sulfadiazine orally. Continuation there any included 2 Gm. of sulfadiazine every four hours, and 50,000 Oxford units of penicillin intramuscularl ₹ every three hours. This was continued for five days. Two days after onset of the meningitis the cerebrospinal fluid contained 350 polymorphonuclear leus cocytes per cubic centimeter and was less cloudy. At the time 10,000 Oxford units of penicillin were injected intra thecally. Seven days after deliver& the cerebrospinal fluid was normal The patient was completely well when she was discharged on the tenth post partum day.

Three selected normal patients whe had caudal anesthesia were studied and the spinal fluid of each was grossly and microscopically normal. This suggests that neither the plastic catheter not the metycaine was irritating to the meninges of these three patients. The possibility that the patient entered the hospital during the incubation period of meningitis cannot be denied. It reasonably certain that the original spinal anesthetic did not enter the patient's dura. 4 references.

F. A. M

CLAYTON, P. A.; SELDON, T. H., AND PRATT, J. H.: Air Hunger, an Indication for Blood Transfusion Before Operation: Report of Case. Proceedings of Case (May 14) 1947.

A forty-nine year old woman gave thistory of irregular, sometimes copious menstrual periods for a period of three years. During the last two months bleeding had been constant. Her chief complaints were fatigue, weakness and dyspnea. The concentration of heme globin was 5.9 Gm. per 100 cc. of blood. She was admitted to the hospital for emergency surgical treatment. Dysp

nea was not improved by elevation of the patient's shoulders and head. The dyspnea was judged to be the result of air hunger caused by marked secondary anemia. It was decided to give a blood transfusion for the purpose of increasing the number of erythrocytes and the amount of hemoglobin and, thereby, the capacity of the patient's blood to carry oxygen. Improvement in the breathing and increased strength followed the administration of 200 cc. of blood. After 1,000 cc. of blood had been given the breathing was within normal limits, the color was improved and the patient was stronger and felt better.

Premedication of morphine 1/6 grain (0.01 Gm.) and atropine sulfate 1/150 grain (0.00043 Gm.) was given. Pentothal sodium was the anesthetic of Inhalations of 100 per cent choice. oxygen were given during the performance of vaginal hysterectomy which required an hour and ten minutes. A total of 1,225 mg, of pentothal sodium was used. During the operation 500 ce, of blood was given. The patient was taken from the operating room in good condition. Two days later the hemoglobin was 7.5 Gm, per 100 cc. of blood. Convalescence was uneventful.

When the blood volume is not sufficient to support the patient and offset shock while surgical operation is being done, or when the erythrocytes and the amount of hemoglobin are inadequate to transport adequate oxygen and to eliminate carbon dioxide, then trauma or further loss of blood, regardless of type of anesthesia, may produce shock or permanent cerebral Spinal anesthesia is condamage. traindicated if the hemoglobin is 50 per cent or less. If anemia is marked, the anesthetist must assure adequate oxygen in the anesthetic mixture. When the hemoglobin is less than 5 Gm. per 100 cc. of blood there will usually be no detectable cyanosis. In this situation cerebral anemia may produce cerebral anoxia and possibly cerebral damage.

Each transfusion of 500 ce. of blood usually increases the amount of hemoglobin by about 10 per cent and the number of erythrocytes by about 500,000 cells per cubic millimeters. Enough blood should be given to produce the benefit desired. Air hunges in association with anemia is rarely

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COLE, FRANK; BARONOFSKY, I. D., AND WANGENSTEEN, O. H.: Curare and Shock: The Production of Hemore rhage Into The Upper Intestine of The Dog With Large Doses of Courare. Surgery, 21: 881-888 (June 1947.

In the laboratory of the Department of Surgery, University of Minnesot Medical School, recent investigation with large doses of curare in dogs showed that intense submucosal and mucosal congestion of the entire small and large intestine, with free bleed ing into the intestinal tract, occurred The stomachs of these animals were not congested. The present study was made to determine the mechanism of the development of the intestinal congestion and bleeding and to further study the pathological changes produced by large doses of curare as well as the effect of large amounts of cue rare on blood pressure in the experix mental animal.

Eighteen dogs were used for these experiments. Intocostrin was used. The curare (intocostrin) was given it single, rapid, intravenous injections. Doses ranged from 0.035 to 1.333 cc of intocostrin per pound of body weight.

The results of these experiments show that doses of intocostrin suffi-