

CURRENT COMMENT AND CASE REPORTS

CURRENT COMMENT is a section in **ANESTHESIOLOGY** in which will appear invited and unsolicited professional and scientific correspondence, abbreviated reports of interesting cases, material of interest to anesthesiologists reprinted from varied sources, brief descriptions of apparatus and appliances, technical suggestions, and short citations of experiences with drugs and methods in anesthesiology. Contributions are urgently solicited. Editorial discretion is reserved in selecting and preparing those published. The author's name or initials will appear with all items included.

ABSENCE OF PULSE PRESSURE DURING ANESTHESIA WITH COMPLETE RECOVERY

The patient was a white woman, 57 years old whose height was 5 feet 6 inches and weight was 120 pounds. Hemoglobin level was 12.8 Gm. Preoperatively, the heart and lungs did not seem to be abnormal. The preoperative blood pressure was 134 mm. systolic and 72 mm. diastolic and the pulse was 90. The blood pressure on entering the operating room was 95 mm. systolic and 68 mm. diastolic.

Resection of the duodenum and head of the pancreas was carried out November 7, 1947, for obstructive jaundice caused by carcinoma of the head of the pancreas. Anesthesia was endotracheal cyclopropane-oxygen with the addition of a small amount of ether; it was begun at 9:10 a.m. and the surgical procedure was started at 9:35 a.m. The systolic blood pressure remained at about 110 mm. for the first three hours. The diastolic pressure gradually rose until, at the end of the third hour, it approached to within 15 points of the systolic value. At this time the pulse, which had been hovering at the 80 or 90 margin, rose to about 100. At 12 o'clock the blood pressure could not be heard, but there was free bleeding and a pulse could be felt at 104 per minute. By 12:30 it seemed reasonably established that the blood pressure level was between 120 and 150 mm., probably nearer the higher level, but that there was very little pulse pressure. At one time and for a period of fifteen minutes the blood pressure seemed to be 150 and 140 mm. systolic and 120 mm. diastolic. Finally, at 1:00 p.m. the blood

pressure level was heard to be simply 120 mm. systolic and 120 mm. diastolic, with no pulse pressure. The pulse remained between 100 and 110 during the entire operation. She was given 2000 cc. of blood during the operation. The blood loss was 4,100 Gm. by weight but it was the surgeon's opinion that the actual blood loss was considerably less than this because there seemed to have been a large amount of bile leaking out which wet the sponges. In addition to the 2,000 cc. of blood, the patient received 375 cc. of plasma and 750 cc. of glucose in water. Respirations were good, there was no tachypnea, chest movement was positive on both sides, and her color was good throughout. She was awake within fifteen minutes after being returned to her room at 2:00 p.m. She talked very soon and complained of pain in the operative region. Her blood pressure was 120 mm. systolic and the diastolic reading was undetermined. At 2:30 p.m. it was 126 mm. systolic and 100 mm. diastolic; at 2:40 it was 140 systolic and 90 diastolic and at 8:00 p.m. it was 140 systolic and 100 diastolic. At 11 p.m. the diastolic pressure fell to 90 mm. and did not rise above this figure. Postoperative course was quite uneventful and the patient made an excellent recovery.

Diastolic pressure is known to be a measure of the peripheral resistance and to depend mainly on the tone of the arterioles. At the same time, a decrease in pulse pressure is generally interpreted as a sign of impending shock. The arterioles seem to have been in a spastic state for a con-

siderable length of time and the case is considered interesting because of the presence of this phenomenon and of the immediate and complete recovery. Aside from the burden of anesthesia, the extensive surgical procedure and the patient's

own physical condition, no specific reason is offered for the appearance of the continued high diastolic blood pressure.

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ANESTHETIC MANAGEMENT FOR RECONSTRUCTIVE ORTHOPEDIC SURGERY: A CASE REPORT

This case report illustrates certain complications and problems in anesthetic management for reconstructive orthopedic surgery.

A 31-year-old man had generalized rheumatoid arthritis. He had been ill for thirteen years and bedridden for the last five years. He weighed 115 pounds. His entire spine was rigid, fusing the head, neck and trunk into a single solid mass. There was ankylosis of the right shoulder, both hips and both knees, with limited motion of the left shoulder, elbow and wrist. The temporomandibular joints were almost completely ankylosed, making nutrition a problem: voluntary jaw motion was impossible, and forcible wedging by the examiner could separate the teeth a distance of only 0.5 cm. Ankylosis of the costal articulations limited chest expansion to 1.5 cm. The systolic blood pressure was 126 mm. of mercury, the diastolic 88 mm. The resting pulse rate was 110 per minute. The electrocardiograph showed a sinus tachycardia, sinus arrhythmia and incomplete right bundle branch block. Laboratory findings were within normal limits; the hemoglobin was 14 Gm. and erythrocyte count 4,620,000.

Bilateral temporomandibular arthroplasty was the first operation performed. Following adequate premedication and with the patient awake, "blind" nasotracheal intubation was performed, using 10 per cent cocaine topically. Anesthesia was then induced with sodium pentothal, 0.25 Gm. intravenously, and maintained with nitrous oxide and ether by nasotracheal insufflation. The course of anesthesia was uneventful except for a few moments of apnea during osteotomy of one side. The postoperative course was marred only by intermittent nasal congestion and epistaxis.

Following this operation the patient was

able to separate his teeth 3 cm., and to eat with ease.

One month later, trochanteric cup arthroplasty of the right hip was accomplished under cyclopropane anesthesia with an oropharyngeal airway. The operation lasted two hours and twenty-five minutes and was attended with considerable loss of blood. Fluid replacement therapy consisted of administration of 1½ liters of whole blood. Nevertheless, the arterial blood pressure, which had been 120 mm. systolic and 76 mm. diastolic at the beginning, dropped to 60 mm. systolic and 40 mm. diastolic, while the pulse rate rose from 120 to 160 per minute. Further blood transfusion immediately after operation was needed to restore and maintain satisfactory blood pressure levels.

Six weeks later the outer third of the right clavicle was resected under cyclopropane anesthesia.

The patient was next brought to the operating room four weeks later for trochanteric cup arthroplasty of the left hip. Cyclopropane anesthesia was again administered, but as soon as the patient lost consciousness his respirations became obstructed. Despite the improvement in jaw separation following the temporomandibular arthroplasties a laryngoscope could not be passed. Endotracheal intubation was attempted, using the "blind nasal" technic. It was difficult to enter the larynx and epistaxis was produced. Anesthesia became lighter during these manipulations and the respiratory obstruction was aggravated by the blood and mucus in the pharynx. The pulse rate rose to 160 per minute and cyanosis developed. The air passages were cleared by suction, oxygen was administered and anesthesia was lightened to elicit a cough reflex. Further suction of the pharynx