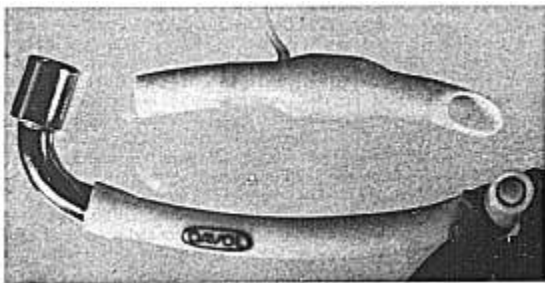


He believes that this was a unique foreign body and that the only way the occlusion of the endotracheal tube by this foreign body could have occurred was in the process of cleaning the tube. The rubber tip must have been jammed up into the lumen of the tube when the wire brush was used to clean the inside of the tube. Transparent endotracheal tubes or thorough examination of endotracheal tubes, before use, will prevent any similar accidents.



Endotracheal tube with rubber tip of intravenous set occluding the lumen.

POSTOPERATIVE DEATH AFTER FLUOTHANE

Drs. Robert W. Virtue and Kathleen W. Payne report that the cause of death of one of their patients who had inhaled a mixture of nitrous oxide-oxygen and fluothane a few days before was obscure. The facts as well as known are hereby presented.

A 39 year old housewife had an acute attack of right upper quadrant pain radiating to the back eleven months before admission to the hospital. She had four subsequent attacks during one of which she had jaundice, dark urine, and acholic stools. Her only previous hospitalizations had been for her deliveries. She denied any serious illnesses in the past. She had frequent frontal headache which sometimes caused her to vomit. She had no cardiac symptoms and her only other gastro-intestinal complaint was constipation.

On physical examination she was observed to be an obese (105 pounds) woman appearing her given age. She was not jaundiced and presented no abnormal findings other than carious teeth. Her physical examination was complete including a pelvic examination which gave normal findings. Admission blood pressure was 108/60, pulse 68, temperature 36.9 C.

Preoperative laboratory work: Hemoglobin 16.3, with blood count 9,850 with a normal differential count. Urine was normal, blood glucose was 88 mg. per cent, non-protein nitrogen 52 mg. per cent, creatinine 1.3 mg. per cent, prothrombin time 100 per cent.

She was considered to be a good surgical risk and was premedicated with 10 mg. of morphine sulfate and 0.4 mg. scopolamine. Prior to induction, her blood pressure was 120/80, pulse 70. Thiopental, 250 mg., was injected intravenously. Forty milligrams succinylcholine were also injected and an endotracheal tube was inserted. Nitrous oxide and oxygen, 500 cc. each, were used in a semiclosed circle absorption system and Fluothane was administered intermittently throughout the procedure using a "copper kettle" vaporizer that had been standardized to give a known controllable output of fluothane vapor. Frontal-occipital electroencephalographic leads were attached

and a continuous EEG record was obtained. Early in the surgical procedure anesthesia in what was thought to be clinical plane 3 (Guedel) was produced. At this level, blood pressure fell below 80 systolic and spontaneous respiration ceased. Manual respiration was employed, Fluothane was discontinued and the breathing bag was flushed with oxygen. Spontaneous respiration soon returned. This sequence was repeated twice. On two of these three occasions the blood pressure by auscultation disappeared. The blood pressure promptly rose on administration of pure oxygen and the pulse was always obtainable. EEG tracings during these three periods showed marked slowing of the brain waves. Thereafter a stable blood pressure was maintained at 110/80 throughout her four-hour procedure.

The gall bladder was small and fibrotic, containing numerous small stones. The common duct was opened and three small stones were removed. The bile ducts were irrigated, and an operative cholangiogram was done using 35 per cent Diodrast. Stomach, pylorus, duodenum, and pancreas were grossly normal during the operation. The cholecystectomy was performed and a T-tube left in place. Pharyngeal reflexes appeared immediately after the operation and the patient was alert within half an hour.

The patient did well the first few days post-operatively. Antibiotics; penicillin and tetracycline were discontinued the fifth day. On the sixth day, an abrupt spiking temperature of 40 degrees appeared. A chest film was normal. White blood count 12,950, 87 per cent polymorphonuclear. There were no localizing complaints. Antibiotic treatment was resumed and erythromycin and streptomycin were given in addition to the penicillin and tetracycline. There were no abnormal urine findings. Blood cultures were taken which were eventually reported as negative and nothing abnormal was shown by lumbar puncture. The patient became lethargic and in spite of blood, plasma and neosynephrine, her blood pressure fell. On the ninth postoperative day, serum amylase was reported as normal. Clotting time was found to be more than 30 minutes. A conjunctival hemorrhage was noted on the ninth day. Her temperature remained high and she died on the eleventh post-operative day. At no time did she complain of abdominal pain.

At autopsy, examination of the liver revealed severe central, midzonal, and peripheral necrosis without focal abscesses. The hepatic vessels were intact. The pancreas was almost completely necrotic but was not hemorrhagic. The adrenal cortices were depleted of lipid, and contained small focal hemorrhages. The patient was found to have had some pulmonary edema. Death was believed due to acute yellow atrophy of the liver and acute pancreatitis.

Drs. Virtue and Payne comment as follows. The rise of temperature after the removal of antibiotics indicates that infection may have been involved in producing the patient's demise. The clinical course, however, was similar to that of delayed chloroform poisoning except that the downhill course did not begin until the sixth postoperative day. It would have been expected to occur earlier if delayed chloroform poisoning had occurred. The autopsy findings were also consistent with what would have been expected with delayed chloroform poisoning. There is no real proof that delayed Fluothane poisoning occurred, but the circumstances would seem to require that this information be presented.

USE OF CARDIAC PACEMAKER

Dr. Arnold S. Gale of Cleveland, Ohio, presents a patient on whom the cardiac pacemaker was used. A 12 week old, 8 pound 10 ounce male infant who had had a complete heart block and an ideoventricular rate of 40/minute since birth was scheduled for hemorrhaphy. The heart block was associated with a high ventricular septal defect.

The premedication was scopolamine 1/1,000 grain, intramuscularly at 7:30 a.m. A cardioscope and cardiac pacemaker were applied prior to the induction of open drop vinethene and diethyl ether anesthesia with oxygen insufflation, at 8:50 a.m. Repair