

**Respiratory abnormalities:** Phonation, obstruction, depression, altered rate and rhythm. asymmetrical chest movements, prolonged expiration, hyperpnea.

**In the ward:** Psychic changes, headache, nausea, airhunger, increasing temperature, precordial or substernal pain, increasing pulse rate, syncope shock, respiratory abnormalities.

When one or more of these signs and symptoms are noted during anesthesia, the addition of oxygen to the respired atmosphere is logical. If after one or two inspirations of pure oxygen a short period of apnea follows, it is almost positive proof that marked oxygen want previously existed. When a deficient oxygen supply is suspected, every effort must be made to diagnose and relieve the cause.

J. T.

**THOMS, HERBERT:** "*Anesthesie à La Reine.*" *Am. J. of Obst. & Gynec.* 40: 340 (Aug.) 1940.

Thoms in his article states that Queen Victoria was delivered of her eighth child on April 7, 1853. She was attended by Sir James Clark, M.D., and John Snow, M.D., the latter in the capacity of anesthetist. Chloroform was administered on a handkerchief in 15 minim doses, the inhalation lasting fifty-three minutes. The drug was administered intermittently and induced what we think of as inhalation analgesia, for the patient was not unconscious at any time. Today this event is memorialized in obstetric parlance by the term "*anesthesie à la reine*" which signifies the type of intermittent inhalation anesthesia which is used today. The author briefly reviews the high points in the career of Sir James Clark, court physician, and John Snow, anesthetist and epidemiologist.

The first application of inhalation anesthesia in obstetrics was that of Sir James Simpson in January, 1847. An analysis by Thoms of Simpson's writings on chloroform in obstetrics reveals the fact that in his use of chloroform consciousness was abolished and that voluntary efforts on the patient's part were not used. This method is essentially different from that used by Snow.

The author calls attention to the fact that the first man to use intermittent inhalation analgesia was Nathan Coolidge Keep, M.D., in Boston. The evidence for this is in a letter to the *Boston Medical and Surgical Journal*, April 14th, 1847. This case occurred less than three months after Simpson's first case with chloroform. Keep used ether. He had previously used ether for analgesia in 200 dental cases.

R. I.

**GORDON, EVERETT J.:** *Postoperative Complications. An Analysis of Etiology, Diagnosis, Prophylaxis and Treatment.* *Am. J. Surg.* 50: 294-305 (Nov.) 1940.

"The incidence (of pulmonary infections) is reported as high as 5 per cent. in all operations and 10 per cent. in those limited to the abdomen. . .

"**Etiology:** 1. Site of Operation: The more closely the operative procedure approaches the diaphragm, the greater the incidence of postoperative pulmonary complications. This is explained by the resultant immobilization of the abdominal muscles together with elevation of the diaphragm. . . Davis observed that the preoperative chest roentgenograms in the expiratory position is almost identical with the postoperative roentgenograms in the inspiratory position.

"2. Sepsis in the operative field: The means of spread may be by direct extension, via the lymph channels, or by embolic means.

"3. Pre-existing respiratory infec-

tion. Acute infections forbid all but emergency operations.

"4. Bronchial obstruction. It is doubtful whether atropine should be used either preoperatively or postoperatively as it undoubtedly hinders drainage by thickened secretions.

"The three factors that tend to cause massive atelectasis are the presence of a plug of tenacious mucus in a bronchus, the abolition of the cough reflex (as after morphia) and limitation of respiratory movements. . . .

"Classification: Postoperative complications may be classified according to their times of onset:

"1. First to fifth days: Atelectasis of the obstructive type due invariably to a plugged bronchus; rarely occurs after the fifth day. . . . Usually occurs in a quiet individual suffering intensely from pain. The onset is always abrupt with rapid and shallow respirations, pain and distress, postural inclination toward the affected side, decreased expansion with impaired percussion note, breath sounds variable depending on the mucous plug. . . . Roentgenograms are usually interpreted as pneumonia. The sputum is typically viscid, thick, mucopurulent, tenacious, and not blood-stained in contrast to the rusty sputum of a true pneumonia or the blood-tinged sputum of a pulmonary infarct.

"2. Fifth to eighth day: Unclassified group, in which pneumonia apparently falls; preceded by atelectasis.

"3. Subsequent to eighth day: Embolic complications and lung abscess.

"A postoperative pulmonary complication having its onset within five days of operation should be considered atelectasis until otherwise excluded. . . . Bronchial obstruction, according to Pol Coryllos, is the starting point of postoperative bronchitis, lobar and lobular pneumonitis, probably of abscess and gangrene. The particular condition arising depends upon the virulence of the infecting organism.

"Prophylaxis: 1. Postoperative care of the respiratory tract. Chronic disease such as tonsillar and dental sepsis should be eliminated before all elective surgery. Patients should be seen on the morning of operation and examined for recently acquired colds or changes of temperature.

"2. The operation. . . . Adhesive strips placed in 'X' fashion in epigastric dressings should prevent constriction of the lower ribs.

"3. Anesthesia. Pol Coryllos has suggested the use of intratracheal insufflation anesthesia with bronchial suction; thereby preserving respiratory potency and pulmonary ventilation and facilitating elimination of bronchial contents before, during, and after operation.

"4. Morphia and atropine. . . . Pantopon should be substituted for morphia because it has a noticeably decreased tendency to thicken bronchial secretions. . . . Belladonna or atropine given postoperatively first suppresses secretion but then renders it more viscid and hinders expulsion.

"5. Position and general care: The patient should be elevated to semi-Fowler's position immediately after he reacts from the anesthesia; if he has received spinal anesthesia the foot of the bed should be elevated six inches for two hours, then placed flat for two hours, and then low Fowler's position. Coughing should be encouraged. Supervised deep breathing exercises should be conducted. The patient should be turned from side to side frequently.

"6. Carbon dioxide inhalations. Eliason and McLaughlin, Lahey, and MacKenzie endorse the routine use of carbon dioxide. . . . Carlson believes this effect (hyperventilation, maintenance of inspiratory position, and violent tracheo-bronchial movements) to be too temporary to be of value. . . . The inhalations should be given after all abdominal surgery in a 10 per cent.

to 25 per cent. mixture with oxygen for three minute periods at intervals of 15 to 30 minutes for four to six hours or longer if necessary.

"7. Drugs for prevention of embolism: Eupaverine and papaverine are frequently used in treatment of cases of embolism which do not have a sudden termination. . . .

"Treatment: Atelectasis. Adjustments of tight dressings, changes of posture, deep breathing, active efforts at coughing, and ten to twenty-five per cent. carbon dioxide inhalations are of inestimable value. Postural drainage performed by having the patient breathe deeply and cough while lying in the lateral position with the involved side uppermost will often expel much obstructive mucus. The patient should lie in bed on the non-involved side. If these procedures do not result in either preventing or relieving atelectasis, bronchoscopy should be done. . . . The routine administration of oxygen to a patient with a postoperative pulmonary complication, especially one with a plugged bronchus, cannot be too strongly condemned."

A. H. F.

ELAM, JOHN: *The Teaching of Anesthetic Methods for Use in General Practice*. Brit. J. Anesth. 17: 57-60 (July) 1940.

"Patients who go to a general practitioner for advice need the assistance of a man or woman of practical ability who can see them through their difficulties. They do not need, as a rule, the assistance of a professor of anatomy or physiology, and it is essential that before being sent out into the world general practitioners should have a good working knowledge of the subjects which they will be required to practice. There is nothing more important both to the general practitioners and to their patients than that they

should have a sound working knowledge of anesthesia, and I submit that there is very urgent need for improvement in the teaching of anesthesia. It is manifestly absurd that a practitioner having no knowledge of anesthesia can be 'licensed to kill.' Students should first of all be taught that there is such a thing as the science of anesthesia, and that they cannot easily become masters of this science. They must be made to understand that to become accomplished anesthetists a high degree of skill must be attained and that this degree of skill can only be acquired by long experience and practice. . . . The course of study of anesthesia in the medical curriculum should last at least three months, and special attention should be paid to dental work. The student should be required to produce evidence that he is a capable dental anesthetist. The importance of dental anesthesia is stressed because all general practitioners have to give anesthetics for dental extractions, and, too often finding a dental nasal gas beyond their capabilities, they turn readily to the use of intravenous anesthesia which requires much practice and experience for really safe administration. Anesthesia and analgesia in midwifery probably come next in importance to general practice, and special attention should be given to teaching students both the value and the dangers of relieving the pains of labor by the use of anesthetic agents. . . .

"Students should be taught the importance and value of premedication, and should learn in hospital methods of premedication which are appropriate to general practice. . . . If a three months' course of instruction in anesthetics is established, the student should have an opportunity of becoming competent to adopt endotracheal methods."

J. C. M. C.