

and in that we should take into consideration the likelihood of after vomiting, and adopt measures to minimize the dangers arising from it. Patients vary within wide limits in their liability to vomiting.

The types of vomiting may be roughly grouped as follows:

*a.* Catarrhal. This arises from irritation of the gastric mucous membrane. It is commonly due to swallowing mucus and saliva saturated with inhaled anesthetic. Children, delicate women, 'bad sailors,' the obese, and dyspeptics are most prone to this trouble. Unless the patient is immoderately feeble, the prognosis is favourable, as the condition soon passes off.

*b.* Head vomiting. This arises from circulatory conditions, when not due to operative procedure on the brain, and can be obviated by avoidance of the lowered head position. Unless there is obvious necessity for adopting the dorsal decubitus, a half-sitting posture lessens after sickness. This condition is especially liable to occur after spinal analgesia, and is very distressing, but it is not in our experience dangerous.

*c.* Visceral reflex vomiting. Operations, with or without general anesthesia, upon the appendix, kidneys, or uterus, are peculiarly liable to produce serious vomiting; especially is this so in regard to the kidneys.

Probably both (*b*) and (*c*) fall into the category of toxæmia in many cases, and are closely allied to the so-called delayed chloroform poisoning. As with all patients who are the subjects of toxæmia, the prognosis is favourable or the converse according as two factors are recognized and dealt with: traumatism by handling and dragging upon viscera, and excess in the quantity of the anesthetic given. A careful study of the conditions influencing sickness and general 'upset' after anesthetics, made by the present writer, brought out very clearly the following fact. Whenever undue viscosity of the blood was present, vomiting and severe after-collapse were developed. This condition may exist *ab initio*, as in the case of chronic bronchitis, when bronchitis, emphysema, and a dilated feeble heart are dominating the organism; in toxæmias, such as cholæmia, mæmia, septicæmia; or it may arise through exhaustion of the central nerve controls through collapse following excessive stimulation, or through the employment of unnecessarily large quantities of the anesthetic or too concentrated a vapour. The prognosis is worse in the case of ether than in that of chloroform, since very large quantities of the former are given during the operation, and it is only after its completion that the collapse is observed.

Speaking generally, the prognosis as regards vomiting after general anesthesia is favourable. Avoidance of 'irritant to tissue,' maintenance of body temperature, minimizing the amount of the anesthetic, and avoiding the swallowing of mucus by giving atropine or chlorbutyl before the inhalation, with a correct placing of the head—lateral posture during operation, half-sitting posture later—will prevent serious sickness. The dangers in severe cases arise from the stomach