

Chapter 2

Case 2: Sudden Anesthesia System Failure

A 1-year-old patient, American Society of Anesthesiologists (ASA) physical status II, is to undergo removal of a cerebral tumor under general anesthesia. An anesthesia machine and breathing system check is performed before the patient's arrival. Noninvasive monitors are placed, and after preoxygenation the patient is anesthetized in a routine manner. Invasive monitors are placed, the operating table is turned 180°, and the operation begins. About 2 h into the operation, the surgeon requests that the operating table be elevated. Three to five minutes later, warning lights flash on the anesthesia machine (Narkomed 2 B, North American Drager). The warning indicates low minute volume, apnea, and no ventilation of the patient. The rotameters show adequate flow of oxygen and nitrous oxide, and the oxygen pipeline pressure is 50 psi.

Manual ventilation is attempted using the anesthesia machine's collapsible breathing bag but is unsuccessful because no air fills the bag despite using the oxygen flush control button. You do the following:

1. Provide self-inflatable bag ventilation. Confirm bilateral air entry. Keep the patient's oxygen saturation and vital signs stable.
2. Call for assistance.
3. Search for a cause of the breathing system failure in the anesthesia machine.

Question

You and your colleagues find nothing wrong with the machine. So what could be the cause of this dilemma?

Solution

The cause of the acute distress was a kinked and compressed fresh gas flow tube between the railing of the operating room table and the bottom of the inspiratory pipe on the absorber (Fig. 2.1). This occurred when the operating table was raised [1].

Recommendation

The fresh gas flow tube from the anesthesia machine to absorber should always be short and not hanging loose. It should always be positioned behind the upright support brace (D) of the absorber, thereby preventing a kink in the tube.

A self-inflatable bag should be available in every operating room.

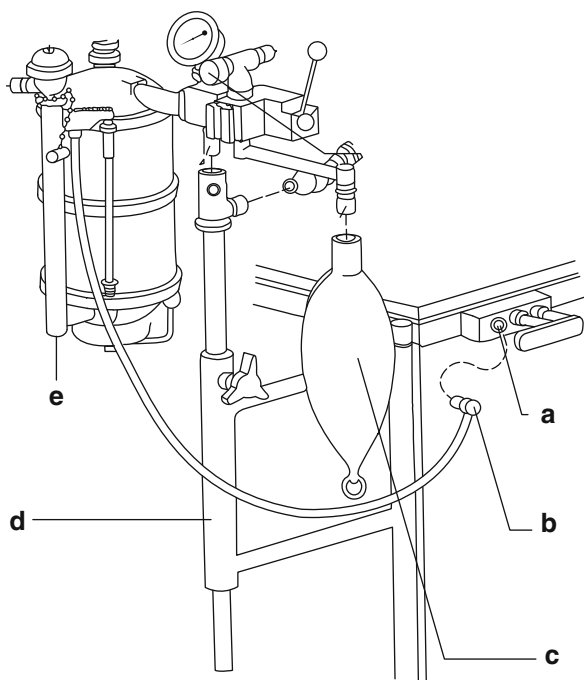


Fig. 2.1 (a) Fresh gas-locking device. (b) Fresh gas hose with 15-mm fitting. (c) Breathing bag. (d) Upright support brace. (e) Inspiratory pipe of the absorber

Reference

1. Silver L, Lopes N, Brock-Utne JG. Raising the operating table causing a sudden anesthesia system obstruction. *Anesth Analg*. 1996;82:1107–8.

<http://www.springer.com/978-1-4614-7039-7>

Near Misses in Pediatric Anesthesia

Brock-Utne, J.G.

2013, XVI, 274 p. 17 illus., 10 illus. in color., Softcover

ISBN: 978-1-4614-7039-7