Editorial

How safe is anesthesia?

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The job of the anesthesiologist has often been compared to that of pilot. In terms of safety it’s true also because anesthesiologists and pilots use advanced technologies such as ultrasound, doppler, advanced hemodynamic monitoring and innovative ventilators both in adult and pediatric patients. The best statistics for anesthesia list one death in 200,000 anesthetics. Hospital administrators are likely to reckon the cost of investing in measures designed to enhance safety and then bemoan the fact that their balance sheet does not show good fiscal return for their investment. Anyway, even if technologies ensure a good safety the human errors are responsible for many errors (1).

The advanced technologies may reduce human errors. For example the use of ultrasound machines of the last generation and their softwares give us the possibility to better visualize the needle during a regional ultrasound block; the robotic anesthesia and surgery allow to reduce the tremors with the advantage of greater precision. Most complications have multi-factorial roots. A fatigued physician at the end of a 24-hour shift may have difficulty in intubation or during the prescription of a drugs or giving an order to a nurse with dangerous consequences on the patient. In this cases a “root cause analysis” should be started in which every link in the system is examined.

The World Health Organization (WHO) has published a Surgical Safety Checklist. It establishes protocols designed to prevent the occasional but recurring errors that have led to harm. The Safety Checklist applies from the time before induction of anesthesia, through just before skin incision and
on the time before the patient leaves the operating room. The protocol involves the entire team so safety depends on teamwork. As told above, the safety in anesthesia often depends on technologies and is achieved if we can manage to keep thresholds around alarm parameters within the desired limits avoid leaving the machine the automatic settings.

The risk of potentially complications can be reduced with appropriate pre-operative evaluation and therapy. The famous ASA classification summarizes a through patient evaluation into a simple scheme? The clinical history and the patient’s current medications reveals previously the most important medical problems.

Many medications influence the anesthetic, particularly those with cardiovascular and coagulation related effects. Allergies are another important topic to be considered, particularly for what concern the risk of anaphylaxis during anesthesia. Latex and muscle relaxants allergy are often involved about the risk of anaphylaxis during the procedures in anesthesia. Coagulation studies would be needed if we plan regional anesthesia and have reason to worry about a bleeding diathesis or thrombocytopenia.

For all these reasons a correct planned procedure is necessary if we want to execute a correct anesthesia management reducing the risk of human errors o technological errors due to an incorrect setting of the equipment.

The availability of advanced and modern equipment can improve safety in anesthesia but does not eliminate the risk of error and harm to the patient.

Returning to our initial comparison, the pilot of an airplane must be able to take off but also be able to land safely with all passengers.

References