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Editorial

Intravenous lidocaine and postextubation laryngospasm

Clinically encountered anesthesia-related complications are usually infrequent and minor in nature.^[1] Among these, complications related to airway management are most widely seen, ranging from slight mucosal damage to more complex damage to the airways.^[2] Moreover, instances of failed intubation and ventilation have potential to cause hypoxic brain injury and even death. Laryngospasm, a frightening event in anesthesia, ranges from very mild in intensity requiring mild airway manipulation with positive pressure ventilation to very severe form leading to some degree of hypoxia and requiring invasive airway management including emergency tracheostomy.^[3] The occurrence of laryngeal spasm is rare, yet the phenomenon can occur at any time during anesthesia. The most catastrophic effects ensue when laryngospasm occurs at the end of anesthesia during the removal of the endotracheal tube. The plane of anesthesia is one of the most important factors responsible for postextubation laryngospasm. Most of the anesthesiologists, therefore, prefer to extubate the trachea either in the deep plane or when the patient is awake. Another important factor to consider is the presence of an airway reactive condition, either in the form of existing comorbid disease or a scenario created by airway irritation from exposure to cold air, endotracheal tube, irritant inhalational agent, presence of secretions, instrumentation by suction catheters, etc.

As this is not a frequent happening and can lead to devastating consequences, anesthesia training should address the teaching and training related to laryngospasm using all possible modalities including simulated scenarios. This should also go beyond structured training as refresher courses in simulation centers. Furthermore, any event that occurs in any department should be discussed in detail in a conducive and learning environment; this would serve as a constant reminder about the complication. Milder forms can be discussed as critical incidents and in quality assurance meetings. In departments where the occurrence is higher than usual, it can also be taken as a quality indicator and principles of quality improvement should be applied for its reduction.

The primary aim for all complications is to prevent them from happening and secondarily to deal with it in an appropriate manner if, after all preventive efforts, it still occurs. Patients, who are at higher risk of developing laryngospasm, should undergo surgery with modalities other than general anesthesia; regional anesthesia has been proven beneficial at such instances. If, at all, general anesthesia has to be administered, then airway manipulation should be kept to as minimum as possible and in deeper plane of anesthesia with agents that do not irritate the airways. Supraglottic devices play a useful role in such situations. If invasive handling of airway is essential, the use of pharmacological agents to reduce the effect of physical irritation has been reasonably successful. Literature has reported various different pharmacological agents to be used in such situations, namely, intravenous suxamethonium, propofol, and lignocaine. The choice of pharmacological agent for this purpose should depend on the experience of the anesthesiologist, success rate of the agent and availability and at least one such agent should always be available in every operating room.

If, after taking all necessary preventive measures, laryngospasm occurs, it should be dealt with appropriately. A clear action plan should be available including experienced help, equipment, and drugs. As time is of crucial importance in this scenario, appropriate actions should be taken quickly, even if the severity is mild, as any form of neglect or delay here would result in grave consequences.

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