Regurgitant food particle causing intractable laryngospasm during emergence from anesthesia

Sir,

Laryngospasm is a common airway related complication in routine anesthetic practice. It is characterized by persistent spasmodic closure of larynx. Persistent refractory complete laryngospasm during emergence after removal of an airway device is challenging to diagnose and treat. A 58-year-old male weighing 62 kg with no known comorbidities was scheduled for tendon repair of index finger under general anesthesia using ProSeal laryngeal mask airway (PLMA). He was kept fasting for solids 12 h and 3 h for clear liquids. Tab. ranitidine 150 mg and tab. metoclopramide 10 mg was given night before and the day of surgery. Intravenous ramosetron 0.3 mg was given. At the end of procedure, Ryle’s tube was suctioned via drain tube and removed noting no obvious gastric contents. At this time partial laryngospasm was noted as patient breathing spontaneously till now suddenly developed noisy breathing and loss of capnography trace. In view of PLMA being a predisposing factor for undesired airway stimulation under lighter plane of anesthesia, it was quickly removed. Patient continued to be assisted with 100% oxygen and gentle CPAP of 20 cm H₂O. Within 60 s chest was seen expanding again coinciding well with reservoir bag movement and return of capnography trace. However, partial laryngospasm returned with a noisy breathing and progressed to complete laryngospasm. Upper airway obstruction was ruled out as a lubricated nasopharyngeal airway was gently inserted and showed only minimal secretions on suctioning. Once the patient became more awake, he had a sudden bout of vigorous cough and patient coughed out unidentifiable material into the face mask which immediately relieved the spasm. Closer examination revealed it was an unsuspecting food particle (intact skin of a red chilly) which he probably regurgitated and was causing recurrent laryngospasm.

Identifying the possible cause of laryngospasm correctly is challenging. General anesthesia predisposes to gastric regurgitation and aspiration. The use of a supraglottic airway device and spontaneous ventilation does not completely secure the airway.

The technique of draining the stomach via a Ryle’s tube in a PLMA may not clear larger food particles from the stomach. Also a PLMA is associated with variable amount of gastric insufflation. In our case regurgitation may have occurred at the end of procedure, in a lighter plane of anesthesia. Presence of a nasogastric tube in situ itself may act as a stimulant for regurgitation since lower esophageal sphincter remains patent. Laryngospasm was refractory to treatment. Only on return of cough reflex was the patient able to expel the food material which is the likely culprit of recurrent laryngospasm. The likelihood of regurgitation is high even in an adequately fasting patient. Laryngospasm may often be an early feature of pulmonary aspiration. A history of gastroesophageal reflux may indicate more chances of developing laryngospasm under general anesthesia. Thus, in presence of recurrent intractable laryngospasm; the possibility of regurgitant food particles persistently irritating the larynx should be thought of early.

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Sir,

The extent of investigations in the preoperative period is always controversial. Many investigations are performed as a part of anesthesia work up. Also, investigations are required for surgical work up which may be different from the preanesthetic work up. At times, investigations for surgical work up may give us some important findings which are otherwise missed as happened in our case. The presence of asymptomatic incidental thrombus in a major pulmonary vessel extending into the left atrium could be catastrophic in the patient undergoing thoracic oncologic surgery.[1,2] We report a case of carcinoma esophagus scheduled for esophagectomy in which a thrombus in the right inferior pulmonary vein extending into the left atrium was observed incidentally in contrast enhanced computed tomographic (CECT) scan done for assessing the tumor status of the esophagus by the surgeons.

A 58-year-old male patient was diagnosed as carcinoma esophagus and scheduled for transthoracic esophagectomy. The patient denied any other comorbidity except related to carcinoma esophagus. He had received five sessions of radiotherapy one month back. His vitals, cardio-respiratory system examination was normal. The chest X-ray and echocardiography was reported normal. On CECT, apart from the presence of mass in the esophagus, filling defect in the right inferior pulmonary vein that extended into the left atrium and measuring 19 × 13 mm suggestive of a thrombus was observed. In discussion with radiologist and cardiologist, it was affirmed that the clot was present on the posterior wall of left atrium extending in pulmonary vein which appeared organized and did not causes any compromise in the left atrium outflow. In view of an organized thrombus, as per discussion with cardiologist, we did not start with anticoagulation or any other intervention preoperatively. The patient was premedicated with oral midazolam (7.5 mg) and intramuscular glycopyrrolate (0.2 mg) in the morning of surgery. In the operating room, standard monitors were attached; epidural catheter was placed at T10-11 level. General anesthesia was induced and maintained as per standard protocol and airway secured with double lumen tube. Radial artery and central venous catheters were inserted for invasive monitoring. Intraoperatively, there were multiple episodes of desaturation, especially during the lung retractor application. These were managed with transient release of retractors' and application of positive end-expiratory pressure (PEEP) and continuous positive airway pressure (CP AP). Beside this episode no major intraoperative event occurred. At the end of surgery, residual neuromuscular blockade was reversed, trachea extubated and the patient was shifted to intensive care unit for further management. In the ICU at 24 h, the patient developed episode of paroxysmal supraventricular tachycardia that was managed with diltiazem. Thereafter, the patient remained hemodynamically stable.

The presence of thrombus was an incidental finding in our case. The diagnosis of the left atrial thrombus is usually made on echocardiography. The organized left atrial thrombus may be missed in the echocardiography as happened in our case.[3] Such thrombus can embolize during the surgical manipulations leading to ischemia, desaturation and hemodynamic instability.[2,3] Retractor application can reduce cardiac output and subsequently arterial oxygen saturation. The etiology of such events remains a clinical dilemma, if proper diagnosis cannot be established in time.[2] However, sophisticated investigations like CECT are not routinely performed especially when the patient is not symptomatic. Therefore, besides routine work up anesthesiologist involved in the conduct of such cases should also look for the serial investigations performed for the diagnostic purposes. Thorough evaluation of these investigations may provide us with the clues which could be a concern for the patient management and may affect the perioperative outcome.

Presence of asymptomatic clot in a major pulmonary vessel extending into the left atrium is a rare finding and can easily be missed on routine investigation. The incidence of...