

Incidental finding of organized thrombus in right inferior pulmonary vein extending in left atrium in the patient scheduled for esophagectomy: What should an anesthesiologist look for?

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 in 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 cause 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 (CPAP). 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, destitution 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

postoperative arrhythmias related to an esophagectomy is 13-64% and this is further aggravated by atrial or pulmonary vein inflammation.^[4,5] The presence of organized thrombus in our patient possibly lead to inflammation and perioperative arrhythmias. The presence of thrombus in the heart after a myocardial infarction requires anticoagulation but there are no recommendations for anticoagulation for an organized atrial thrombus in absence of history of myocardial infarction or atrial fibrillation.^[6]

To conclude, presence of asymptomatic clot should be taken seriously and the possibility of all the complications which can arise should be discussed preoperatively and measures to treat those complications should be available before anesthetizing such patients.

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