

Quiz: Thoracic Surgery – Answer and Discussion

A patient with mediastinal mass and pleural effusion

Correct answer – C.

A. Low-molecular weight heparin is certainly a mainstay in the prevention of venous thromboembolic events (VTE). This patient has a lymphoma and acute presentation, so that he falls into a high VTE risk category. However, the radiological presentation is not consistent with pulmonary embolism.

B. Local anesthetics may rarely cause respiratory impairment. However, such a clinical scenario is mainly due to allergic reactions or neurological toxicity. Both these mechanisms are not consistent with the radiology findings. Another possible cause of respiratory deterioration after thoracic loco-regional anesthesia techniques is pneumothorax. However, this is very unlikely to occur with erector-spinae blockade. Furthermore, there is no sign of pneumothorax on chest X-Ray.

C. **The correct answer is C.** This is a typical clinical and radiological scenario of re-expansion pulmonary edema (REPE). This complication may occasionally occur when a massive pleural effusion or pneumothorax is drained too quickly. In this patient, the drain was initially kept clamped to allow a gradual

drainage, but the clamp was removed on arrival in theatre so that the largest amount of pleural fluid that was (intentionally) left undrained came out suddenly, over the time of patient preparation to surgery. The estimated rate of REPE ranges between 1% and 10%. Risk factors are young age, duration of lung collapse >72 hours, and larger amount of air/fluid collection. REPE should be taken as a serious condition which a potential for mortality, especially in patients with comorbidities.

D. Sivelestat has occasionally shown effectiveness in the treatment of REPE as well as other acute respiratory conditions. However, its use in REPE is not yet evidence-based. Furthermore, there is no rationale for using it for prevention.

E. Although it is wise nowadays to consider SARS CoV2 infection each time a hospitalized patient shows respiratory impairment, its pulmonary presentation is characterized by uneven, bilateral infiltrates rather than a homogeneous, unilateral involvement.

Federico Tacconi

Tor Vergata University Hospital of Rome, Rome, Italy

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Address for Correspondence: Federico Tacconi, Tor Vergata University, Rome, Italy

Email: federicotacconi@gmail.com

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