Commentary

Traumatic pneumomediastinum: High alert

Traumatic Pneumomediastinum occurs in up to 10 – 15% of the cases of blunt chest trauma.[1] Pneumomediastinum may result from either intrathoracic or extra-thoracic causes. Intrathoracic etiology includes a narrowed or plugged airway, straining against a closed glottis, blunt chest trauma or alveolar rupture. Extra-thoracic causes are mainly sinus fracture, iatrogenic manipulation in dental extraction or perforation of a hollow viscus.[2] Although, they are rare in daily life, whenever they occur they can be life-threatening, requiring immediate diagnosis and treatment.[3]

In pneumomediastinum, the radiographic signs depend on the changes of normal anatomic structures that are outlined by the air as it leaves the mediastinum, for example, the thymic sail sign, 'ring-around-the-artery' sign, tubular artery sign, double bronchial wall sign, continuous diaphragm sign, and extrapleural sign. During a caudal end esophageal rupture, air migrates from the mediastinum into the pulmonary region and creates pneumomediastinum. This condition may be difficult to differentiate from medial pneumothorax and pneumopericardium.[4] Diagnosis can be confirmed using a computed tomography (CT) scan or transthoracic and transesophageal echocardiography, if available, although no imaging technique is entirely reliable. An empty pericardium, a pericardial defect, cardiac shift, and pneumopericardium are all consistent with the diagnosis.[5-9] At times, normal anatomic structures (e.g., major fissure, anterior junction line) may simulate air within the mediastinum. Iatrogenic entities that may complicate as pneumomediastinum include helium in the balloon of an intra-aortic assist device.[4]

Treatment is directed toward the factors responsible for the leakage of air, with symptomatic treatment and chest tube as per requirement, in the Emergency Room. In an emergency, tension pneumomediastinum or hemo-thorax with uncontrolled bleeding require a red alert and most of the time invasive procedures like thoracotomy or thoracostomy are performed.

On behalf of the experience and research article studies, we advocate that strict intensive care and conservative therapy can provide successful recovery in most patients. In 9 – 16% of the patients, the evolution of the process is dramatic and requires cervical mediastinotomy after Tiegel or thoracotomy, with wide mediastinotomy.[10]

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