

Complete rupture of the right upper lobe bronchus due to blunt thoracic trauma

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A 20-year-old male patient was admitted to our department with signs of infection. Four months previously, he had been treated with tube drainage for bilateral pneumothorax after being crushed between two vehicles. Right upper lobe atelectasis was the first diagnosis on chest radiography (Fig. 1). Computed tomography of the thorax revealed a rupture of the right upper lobe bronchus, especially with multiplanar reconstructions and minimum-intensity projection images (Fig. 2a and b). Complete separation of the right upper lobar bronchus was confirmed by bronchoscopy, which showed only a blind-ended stump. Our initial goal was bronchial anastomosis via a right thoracotomy; but this could not be achieved due to the distorted and fibrous components of the bronchus as a result of the delayed diagnosis (Fig. 3). So, right upper lobectomy was performed.

Tracheobronchial rupture due to blunt thoracic trauma is rare, but it may be a life-threatening complication when overlooked. Rupture may remain unnoticed when enough peribronchial tissue remains intact to allow a spontaneous healing of the bronchial orifice. All other cases present with severe pneumothorax not responding to drainage. The most commonly affected part of the tracheobronchial tree is the right main bronchus; rupture of the left main bronchus and trachea are less frequently observed [1]. Isolated lobar bronchial rupture is extremely rare [2]. A small number of cases of partial rupture of the lobar bronchus have been reported

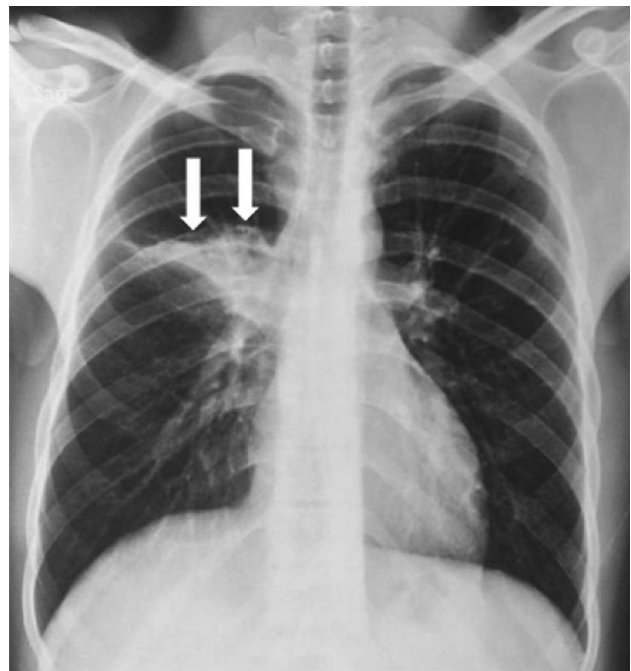


Fig. 1 A wedge-shaped opacity in the right parahilar area on posteroanterior chest radiography is suspicious for atelectasis (arrows)

previously. We report this case because of its uncommon localization and to draw attention to the importance of early diagnosis of bronchial rupture.

Keywords Atelectasis · Bronchial rupture · Pneumothorax · Thoracic trauma

Conflict of interest

Authors indicate that they have no financial relationship.

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Fig. 2 **a** Blind-ended right upper lobe bronchus (*arrow*) and atelectasis in the right upper lobe are well seen on axial computed tomography image. **b** Minimum intensity projection reconstruction image of the thorax reveals proximal stump of the ruptured right upper lobe bronchus (*short vertical arrow*) and inferiorly displaced distal part of the ruptured right upper lobe bronchus (*long horizontal arrow*)

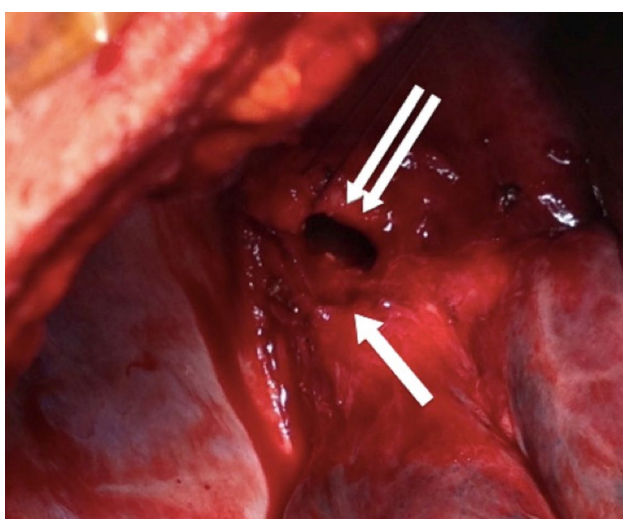
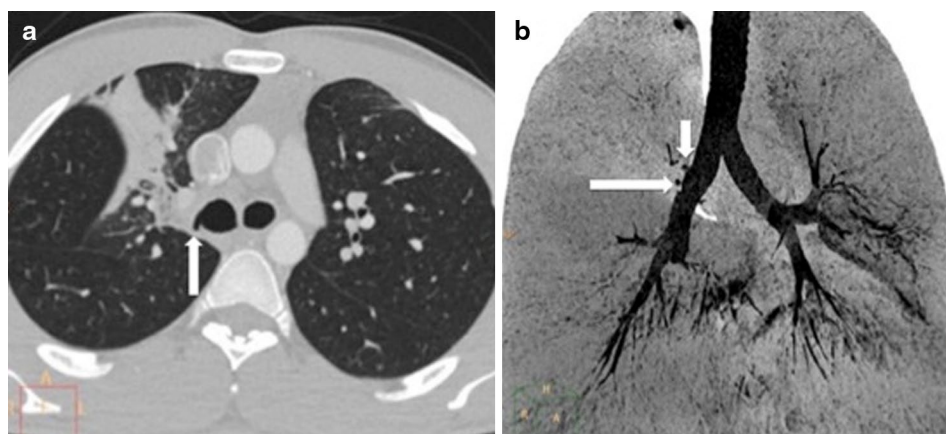


Fig. 3 Intraoperative image shows proximal (*double arrow*) and distal (*arrow*) part of the right upper lobe bronchus

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