

Surgical management of lung abscess that can predict the surgical outcome in patients with pleural Empyema

Editorial

Lung abscess, an infectious pulmonary disease, first described by Hippocrates can be classified into acute (less than 6 weeks of clinical manifestations) and chronic (more than 6 weeks of clinical features). In the pre-antibiotic era, putrid lung abscess was a fatal condition until in the early decades of the 20th century; Doctor Neuhof proposed a new concept of one-stage open drainage operation for lung abscess treatment that contributed effectively reduce the mortality rate from 75 % to 2.5 %. The etiologies of lung abscess could be tuberculosis, empyema, post-pneumonic, and foreign-body. Open drainage is indicated in patients with acute lung abscess who are too sick to undergo pulmonary resection, whereas the postoperative complications may be pleural empyema, bronchial fistula, and air leakage. Percutaneous drainage is indicated in combination with systemic antimicrobial as the first-line therapy under computed tomography or ultrasound guided, whereas the postoperative complications may be empyema/pyopneumothorax, bronchopleural bleeding, and fistula, subcutaneous emphysema, and tube malposition. Pulmonary resection (wedge resection, lobectomy, and pneumonectomy) is acutely indicated in patients with refractory medical response, hemoptysis, bronchopleural fistula, localized infections lesion, and prolonged sepsis, whereas the postoperative complication may be postoperative pneumonia, and chronically indicated in patients with cavitary lesion >6 cm., refractory to antibiotic treatment, and unsuccessfully treated lung abscess for more than 6 weeks, whereas the postoperative complication is empyema, postoperative air leakage (>7 days), stump leak or bronchopleural fistula, mediastinitis, and arrhythmia. Finally, decortication/debridement is indicated in patients with rupture of abscess in the pleural cavity with empyema/pyopneumothorax, whereas the postoperative complications may be bronchopleural fistula, postoperative air leakage (>7 days), and residual debris.

Pleural empyema is one of the serious complications of lung abscess, pneumonia, and postoperative complication of lung abscess. Nevertheless, lung abscess could be complication of pleural

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empyema. Approximately, 5% of patients with pneumonia complicate with pleural empyema. A previous study in patients with pleural empyema with and without lung abscess revealed that the intensive-care-unit admission rate and overall mortality rate were higher in the lung abscess group. In conclusion, adequate control of the septic foci remains the primary objective of the surgical therapy. The basic rule of Neuhof's operation still has considerable impact on present medically therapeutic concepts. Surgical interventions, particularly resection of the affected pulmonary segment still play important role for complicated lung abscess. The drainage, a procedure with high morbidity and mortality rates is specifically in patients with deteriorating condition. Clinicians should pay more attention on patients with lung abscess for early management.

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Conflicts of interest

Author declares that there are no conflicts of interest.