Barium sulfate is a relatively insoluble salt of barium used as a radiographic contrast medium. A barium swallowing test is generally safe, but aspiration is well-reported complication during upper gastrointestinal contrast material studies. Especially massive aspiration of barium is potentially life-threatening because of mechanical interference with gas exchange. The overall mortality rate of massive barium aspiration is approximately 30% and exceeds 50% in patient with initial shock or apnea, secondary pneumonia, or adult respiratory distress syndrome. Predisposing factors for the occurrence of aspiration can include any conditions affecting the functional integrity of the oropharyngeal and esophageal segments such as old age, disordered swallowing, neuromuscular dysfunction, alcoholism, head and neck cancer and psychological illness. We hereby report a fatal case of large amount of barium aspiration in an elderly patient. 66-year-old man with a history of Grave’s disease, alcoholic liver cirrhosis, congestive heart failure and mitral valve replacement was admitted to treat secondary pneumonia. And he underwent a radiographic contrast study with barium sulfate because of dysphagia about semi-solid food. During upper gastrointestinal radiographic contrast study, he was abruptly aspirated with large amount of barium, resulting in hypoxic respiratory failure. Chest X-ray showed endobronchial deposition of barium sulfate in whole lung. A bronchoscopy was carried out but failed to remove aspirated barium. Unfortunately, he progressed to the multiple organ dysfunction syndromes and died shortly thereafter despite of treatment with fluid resuscitation, vasoactive agents, antibiotics, ventilator and renal replacement support. Barium swallow study is a good diagnostic tool for oropharyngeal dysphagia. However its complication can be fatal for an elderly patient with multiple comorbidities. We suggest clinicians should consider other methods instead of upper gastrointestinal radio contrast study with barium sulfate in these patients.

Case:
A 60-year-old man with idiopathic pulmonary fibrosis underwent bilateral lung transplantation. After lung transplantation, acute rejection was suspected and high dose steroid therapy was done. Since postoperative day(POD) 25, thrombocytopenia (platelet 1121000/UL) and leukopenia(2530/UL) were presented. The patient complained of intermittent symptom of low-grade fever, chest discomfort and dyspnea. Echocardiography showed stress induced cardiomyopathy and results of peripheral blood smear was nonspecific. Pneumonia was developed and patient was treated with antibiotics. Hyperbilirubinemia(total bilirubin 2.1 mg/dL) started to present at POD 50. However, the finding of peripheral blood smear was still nonspecific. The fibrinogen was mildly elevated (4210mg/dL), triglyceride was normal (127 mg/dL), the ferritin was elevated (4518 ng/mL) and soluble interleukin-2 receptor was elevated (6730U/ml). However, the finding of peripheral blood smear was still nonspecific. The cause of pancytopenia, low grade fever and hyperbilirubinemia was unclear, and we conducted bone marrow biopsy on POD 82. The finding showed that histiocytes were frequently seen with occasional hemophagocytes. Taken together, cytopenia, bone marrow hemophagocytes, elevated soluble interleukin-2 receptor and elevated ferritin were positive among laboratory tests listed in diagnostic criteria of HLH. We managed with etoposide and high dose steroid, but patient deteriorated and died on POD 87.

Summary:
HLH is a significant diagnostic and therapeutic challenge in lung transplantation and is potentially lethal complication. Therefore, clinicians should consider HLH as possible diagnosis in clinical context.

Barium sulfate aspiration in patient with multisystem disease after lung transplantation.

Background:
HLH is a rare but life-threatening complication after solid organ transplantation. HLH has been reported as problem related with kidney and liver transplant, and there are limited reports of HLH after lung transplantation.

Case:
A 66-year-old woman who presented with a single nodule. She had been controlled well with cystic changes similar to sequelae of pulmonary tuberculosis. However, over the last 8 years his serial chest radiography and high-resolution computed tomography showed bullous fibrocystic changes on both upper lobes and the findings of progressive increase of bullous cystic sizes correlated with disease duration. During follow-up period, he had suffered from frequent associated pneumonia, exacerbation episode of chronic obstructive airway disorder, and massive hemoptysis due to mycetoma on both upper lungs. Acid-fast staining and all subsequent mycobacterial cultures were negative. To our knowledge, this is the first in Korea with progressive bullous fibrocystic changes on both upper lungs as associated pneumo-philial involvement.
A Case of Kikuchi Disease Involving Intrapulmonary Lymph Node Mistaken for Lung Nodule

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Kikuchi-Fujimoto disease (KFD), also known as histiocytic necrotizing lymphadenitis, is an uncommon, idiopathic and generally self-limited disease, characterized by cervical lymphadenopathy. KFD can involve all the lymph nodes of the body, intrathoracic lymph node involvement including mediastinal lymph nodes is relatively rare. Especially, isolated involvement in intrapulmonary lymph node is extremely unusual. We report a 45-year-old man who presented with symptoms of myalgia, fatigue, and fever whose CT scan showed slowly growing nodule in upper lobe of Left lung during follow-up. On laboratory findings, there was no evidence of infection and autoimmune disease including systemic lupus erythematosus. The result of excisional biopsy by video-assisted thoracoscopic surgery revealed that he had a Kikuchi disease in intrapulmonary lymph node. His symptoms were lessened after the trial of non-steroidal anti-inflammatory drugs.

The Relationship Between Serum Carcinoembryonic Antigen and Acute Exacerbation of Idiopathic Pulmonary Fibrosis

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Background: Although pulmonary function test is often used to monitor the clinical course of patients with idiopathic pulmonary fibrosis (IPF), it is difficult to accurately predict the acute exacerbation by any inspection. Carcinoembryonic antigen (CEA) is a glycoprotein involved in cell adhesion and has a close association with epithelial malignancy. The aim of this study was to evaluate a relationship between CEA concentration and acute exacerbation rate in patients with IPF.

Methods: In this observational, retrospective study involving 34 patients with IPF whose serum CEA levels were measured when they were diagnosed as IPF, we evaluated the incidence rate of acute exacerbation of the lower serum CEA level group (<4 ng/mL), as compared with the higher serum CEA level group (=4 ng/mL) using database of IPF patients from Kyung Hee University hospital for 5 years.

Results: Among 34 study subjects, 16 and 18 were assigned to lower and higher serum CEA level group respectively. There were no significant differences in the baseline characteristics between the two groups, including gender, age, smoking history and lung function. There were 27 individual episodes of acute exacerbation among 34 patients during the study period. A total of 4 events occurred in the lower serum CEA level group, corresponding to an incidence rate of 0.01 per patient-year, while 23 episodes occurred in the higher serum CEA level group, corresponding to a rate of 0.07 per patient-year. Compared with the lower serum CEA level group, the adjusted relative risk for the incidence rate of acute exacerbation was 3.93 (95% CI 1.05 to 14.66) for the higher serum CEA level group.

Conclusions: In IPF, the higher serum CEA level group showed higher incidence rate of acute exacerbation, as compared with the lower serum CEA level group.