LETTER TO THE EDITOR

An Unusual Case of Septic Pulmonary Embolism Secondary to Renal Abscess

Septic pulmonary embolism (SPE) is an uncommon disorder with an insidious onset and nonspecific clinical and radiographic features that are difficult to diagnose.

A 61-year-old woman with a medical history of diabetes mellitus and hypertension was admitted to the nephrology ward with complaints of chest pain, flank pain, and intermittent fever for 1 week. A blood examination demonstrated a peripheral leukocyte count of 35,900 cells/mm³ (99.5% segment and 0.5% monocytes). The serum sugar concentration was 388 mg/dL and the creatinine level was 0.75 mg/dL. A urinalysis demonstrated pyuria. A chest X-ray revealed multiple lung masses of various sizes. A computer tomography (CT) of the chest and abdomen revealed multiple nodular pulmonary lesions in different stages of cavitation, mostly located subpleurally, and measuring (maximum) approximately 4 cm (Figure 1A), bilateral multiple renal abscesses, pyelonephritis, and left renal vein thrombosis (Figure 1B). Blood and urine cultures were positive for *Klebsiella pneumoniae*. A two-dimensional echocardiogram showed no abnormality. We diagnosed SPE and renal vein thrombosis secondary to renal abscess, an uncommon predisposing condition for SPE. The patient was treated successfully with intravenous administration of cefamezin (1 g) three times a day for 3 weeks and oral cephalexin (500 mg) four times a day for another 3 weeks.

The SPE, though an uncommon diagnosis, is a rare but serious disorder that is difficult to diagnose in the emergency department. Although a fast diagnosis for appropriate antibiotic therapy is indispensable for patients with SPE, this uncommon disorder often shows nonspecific clinical and radiological findings, resulting in delayed diagnosis. Jaffe and Koschmann reported that most cases of septic emboli originate from bacterial endocarditis or septic thrombophlebitis from sources such as periodontal diseases, the jugular region, pelvic infection, or infected indwelling catheter. The SPE and renal vein thrombosis due to renal abscess are rarely reported. Chest radiograph findings for SPE are multiple poorly marginated or wedge-shaped densities, peripherally located pulmonary nodules with or without cavitation but more often nonspecific in appearance. A CT scan is more sensitive and perhaps more specific than radiography which may demonstrate characteristic findings including the presence of scattered, well-defined parenchymal nodules or consolidation located within the lungs peripherally, often in varying stages of cavitation and frequently associated with pleural effusion or empyema, with definable blood vessels feeding the nodules and heterogeneous, subpleural, wedge-shaped densities seen within the lungs. Complications of SPE are pulmonary abscess, empyema, pyopneumothorax, and bronchopleural fistula. Prognosis may be related to the comorbidities of the patients. Diabetes mellitus is the most reported comorbid factor. Complete recovery without long-term sequelae is likely for most patients who receive early antimicrobial treatment.

The SPE presents with variable and often nonspecific clinical and radiographical features. The diagnosis is usually suggested by the presence of predisposing factors, febrile illness, and CT findings of multiple subpleural lung nodules. Blood cultures, CT of the chest, and echocardiography are invaluable in the evaluation of a patient with suspected SPE. With early diagnosis, appropriate antimicrobial therapy, and control of the source of infection, recovery from the illness can be expected for most patients with the avoidance of potential complications.
References


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