

A case of malignant hypertension presenting with ARDS in a patient with chronic kidney disease

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Malignant hypertension is the most severe form of hypertension that results in acute and chronic target organ damage to the brain, heart, kidneys and blood vessels. Here, we report a case of malignant hypertension presenting with acute respiratory distress syndrome in a patient with advanced chronic kidney disease. A 33-years old man admitted to the hospital due to new onset dyspnea and non-massive hemoptysis. On arrival, he was afebrile and tachypneic with high blood pressure of 259/149mmHg. Bilateral crackle sound was prominent during physical examination. On chest X-ray and CT, diffuse alveolar hemorrhage presenting as ground glass opacities (GGO) pattern was observed. Mechanical ventilation and emergent hemodialysis with control of high blood pressure were initiated for progressive hypoxia due to pulmonary hemorrhage and anuria. Diagnosing as ARDS, we initiated empirical antibiotics (Piperacillin/tazobactam) considering the possibility of pneumonia. bronchoscopy were performed to confirm the diagnosis. (Figure 1:). Echocardiography showed normal systolic function. Serologic tests, Viral PCR test were negative, sputum cultures showed no bacterial growth. As ARDS progressed due to diffuse alveolar hemorrhage, treatment with high dose steroid had begun. Kidney biopsy was performed to confirm the cause of organ damage. He was diagnosed as chronic kidney disease due to hypertensive nephrosclerosis, consistent with malignant hypertension. Hemodialysis was maintained three times a week as his renal function did not recover. Mechanical ventilation was stopped and steroid was tapered down while blood pressure was finely controlled. As a result, the patient's ARDS recovered. (Figure 2) This case suggest that severe hypertension can lead to diffuse alveolar hemorrhage, which diagnosis needs to be differentiated from pulmonary renal syndrome caused by an immune mediated mechanism. The hypoxia may have been exacerbated due to positive fluid balance due to anuric kidney injury. In patients with advanced kidney disease, we should consider uncontrolled hypertension can lead to diffuse alveolar hemorrhage



Figure 1 : Bronchoalveolar lavage findings



Figure 2 : CT findings