Coexistence of Diffuse Alveolar Hemorrhage and Pulmonary Thromboembolism

Yu Kurahara

Key words: diffuse alveolar hemorrhage, pulmonary thromboembolism, microscopic polyangiitis

A 56-year-old man suffering from intractable pneumonia was referred to our hospital. Chest computed tomography and bronchoalveolar lavage fluid revealed diffuse alveolar hemorrhage (DAH) (Picture), and the anti-nuclear antibody and MPO-ANCA positivity. Microscopic hematuria and the serum creatinine level (1.5 mg/dL; normal value, <1.1 mg/dL) indicated a decline in the renal function. Thus, the patient was diagnosed with microscopic polyangiitis (MPA). Three days after treatment with intravenous cyclophosphamide and corticosteroids, he suddenly complained of breathing difficulties. Urgent enhanced chest CT revealed left-sided acute pulmonary thromboembolism (Picture). This was suspected to have occurred secondarily to deep vein thrombosis and was confirmed by D-dimer and color Doppler ultrasonography of the lower limbs. We performed inferior vena cava filter placement. Because DAH appeared to be quiescent, we started systemic heparinization for the treatment of PTE and he was subjected to plasmapheresis;
however, he died from hemorrhagic shock.

DAH and PTE represent complex situations that are extraordinarily crucial because it is difficult to select whether anticoagulation or hemostasis is appropriate (1). In a pediatric case series from the United States elective anticoagulation therapy was selected for two patients with granulomatosis with polyangiitis with concurrent DAH and PTE (2). Nonetheless, it is difficult to say anticoagulation or hemostasis is appropriate for this complicated situation.

There are several explanations regarding thrombosis in MPA. First, an impaired endothelial function and hypercoagulability could explain the risk of thrombosis. Second, circulating antineutrophil cytoplasmic antibodies may cause vascular damage on the endothelial surface (3). Physicians should be aware that the simultaneous onset of DAH and PTE can occur in MPA.

The authors state that they have no Conflict of Interest (COI).

Acknowledgement
Financial/nonfinancial disclosures: The authors declare no conflicts of interest in association with the present study.

References

The Internal Medicine is an Open Access journal distributed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view the details of this license, please visit (https://creativecommons.org/licenses/by-nc-nd/4.0/).