

中文題目：末期腎病患者輸血後的急性呼吸衰竭

英文題目：Acute respiratory failure after blood transfusion in end-stage renal disease patients

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Back ground: Blood transfusion can be life-saving and provides great clinical benefit to many patients but it is not without risks. Transfusion-related acute lung injury (TRALI) defined as new acute lung injury (ALI)/acute respiratory distress syndrome (ARDS) occurring during or within six hours after blood product administration. Two hypotheses that lead to neutrophil activation in TRALI have been proposed: antigen-antibody hypothesis versus the two-event hypothesis. Recipient factors that may be involved in the pathogenesis include the recipient's underlying conditions and genetic predisposition. Donor unit factors that may be involved in the pathogenesis include leukocyte antibody, cytokines, lipids and factor(s) that increase pulmonary endothelial cell permeability.

Clinically, patients may present with fever, tachycardia, tachypnea, hypotension, and prolonged hypoxemia. If TRALI is suspected, the transfusion should be discontinued immediately.

Management of the patient with either TRALI or possible TRALI/transfused ARDS is supportive, with oxygen supplementation for the correction of hypoxemia being the cornerstone of treatment. Non-invasive respiratory support may be sufficient in less severe cases, but endotracheal intubation with invasive mechanical ventilation is often required.

Blood transfusion is sometimes arranged in patient with end-stage renal disease due to impaired erythropoiesis or bleeding. In addition to transfusion-associated circulatory overload (TACO) that is mostly considered in such patients, TRALI should also be listed in the differential diagnosis of acute respiratory distress after blood transfusion. We will present here 3 ESRD patients developed TRALI in different situations.

Case presentation

Case A: A 59-year-old women with hypertension, diabetic nephropathy and CKD was hospitalized due to left kidney rupture and hemoperitoneum after vigorous massage.

Dyspnea developed after blood transfusion which caused her intubated and chest X ray showed bilateral increased hilar infiltrations.

Case B: A 62-year-old male patient with ESRD under hemodialysis was transferred from the hemodialysis room to the emergency department (ED) due to acute respiratory distress and severe hypoxemia after blood transfusion. The patient's past history included diabetes mellitus, hypertension, and coronary artery disease. Four hours later, when the blood transfusion and the hemodialysis were just completed, acute dyspnea, short of breath, and chest tightness developed.

Case C: A 64-year-old man with hypertension, coronary artery disease, diabetes and end stage renal disease under hemodialysis was admitted due gastro-intestinal bleeding. Blood transfusion during hemodialysis was arranged and he was intubated later due to severe hypoxemia.

Conclusion: TRALI has long been considered as a rare complication, nowadays, we acknowledge the syndrome as the leading cause of transfusion-related mortality. Increased awareness of the risks of this procedure is needed, because management of patient-tailored transfusion could reduce the risk of TRALI

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Key words: Blood transfusion , acute lung injury , transfusion related acute lung injury