

Evaluation of Transfusion-Related Acute Lung Injury

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Abstract : Transfusion-related acute lung injury is the main reason of transfusion-related death, and it's assigned to white blood cell reactive antibodies present in the blood product (anti-HLA class I and class II or anti granulocyte antibodies). TRALI may occur in the COVID-19 patients who are treated by convalescent plasma. The rate of TRALI's reactions is the same in both males and females and can happen in all age groups. TRALI's occurrence is higher for people who receive plasma from female donors because the parous female donors have multiple HLA antibodies in their plasma. Patients with chronic liver disease have an augmented risk of transfusion-related acute lung injuries from plasma containing blood products like FFP and PRP. The condition of TRALI suddenly starts with a non-cardiogenic pulmonary Edema, often accompanied by marked systemic hypovolemic and hypotension. The conditions occur during or within a few hours of transfusion. Chest X-ray shows a nodular penetration or bats' wing pattern of Edema which can be seen in acute respiratory distress syndrome as well. TRALI can occur with any type of blood products and can occur with as little as one unit. The blood donor center should be informed of the suspected TRALI reactions when the symptoms of TRALI are observed. After a review of the clinical data, the donors must be screened for granulocyte and HLA antibodies. The diagnosis and management of TRALI is not simple and is best done with a professional team and a specialty skilled nurse experienced with the upkeep of these patients.

Keywords : TRALI, transfusion-related death, anti-granulocyte antibodies, anti-HLA antibodies, COVID-19

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