

Abstract

Restrict issue of female plasma to patient to decrease risk of TRALI

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Aim & Objective -

Transfusion related acute lung injury (TRALI) is a rare but serious syndrome characterized by sudden acute respiratory distress following transfusion. It is defined as new, acute respiratory distress during or within six hours of blood component (i.e. red blood cells, plasma, platelets) transfusion in the absence of temporally associated risk factors for acute respiratory distress syndrome (ARDS). All plasma containing blood components and plasma protein products have been implicated in TRALI.

It is characterized by rapid onset of lung injury or fluid in the lungs, along with hypoxia & noncardiogenic pulmonary edema, due to activation of immune cells in the lungs.

TRALI is caused by activation of recipient neutrophils by donor derived antibodies targeting human leukocyte antigens (HLA) or human neutrophil antigens (HNA).

There are high chances of Transfusion related acute lung injury (TRALI) after transfusion of plasma from multiparous female in comparison to nulliparous female & male plasma

Females who have been pregnant or multiparous are more likely to have anti-HLA antibodies in their plasma which are causative factors for TRALI.

Non antibody mediated cases also occur and may be mediated by biologic response modifiers present in the transfused blood component or plasma protein product, along with recipient factors.

Introduction -

We stopped issuing female plasma to patients to decrease risk of TRALI

1813 Female Plasma were prepared from April 2022 to August 2024 in which 1786 Plasma issued to fractionation centres, 14 Plasma were issued to the patients & 13 Plasma were discarded due to TTI reactive.

Challenges -

Separate Inventory management of female plasma is difficult, to check parity of female is also challenging.

Conclusion -

Using male only plasma we can't omit TRALI but can definitely reduce risk of TRALI.

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