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**Interpretive Educational Scheme (iED)
Clinical Scenario 3/2017 – Transfusion Related Acute Lung Injury**

Dispatched on 24th May 2017

Summary of Results

A total of 27 responses were received.

Of the responses, 14 labs do not provide a TRALI clinical Service, and 9 provided a full or partial TRALI service.
4 labs did not respond to this question.

1) Summary of the results for each donor

Donor 1:

- Low MFI patient specific HLA antibodies A*03 (878 MFI), B*44 (991 MFI), unlikely to be clinically significant
- Potential HNA-1a antibody present in donor's serum as seen in GIFT IgG/GCLT but not relevant in this case as the patient does not possess the cognate antigen.
- Duration between transfusion and clinical events too long for TRALI (>6 hours)

Donor 2:

- No HLA or granulocyte specific antibodies detected

Donor 3:

- HLA-A3 patient specific antibody (6027)
- No granulocyte antibodies detected.
- Onset of symptoms within 6 hours after the transfusion
- 4 labs commented on the low positive control value (1047 MFI) of the Class I Single Antigen test

2) Do the laboratory results support the diagnosis of TRALI?

26/27 Yes

HLA-A*03 antibody detectable in Donor 3 is relevant as the patient possesses cognate HLA-A*03.
Transfusion within 6 hours of the reaction so donor 3 is the potential cause of antibody mediated TRALI.

3) If the donor had results that were positive for all GIFT assays but no specificity could be defined, what further tests would you request?

- Crossmatch donor serum with patient granulocytes to detect incompatibility between donor and patient
- Perform a Monoclonal Antibody Immobilisation of Granulocyte Antigens (MAIGA) assay

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- Adsorb HLA antibodies
- Granulocyte Agglutination Test (GAT) to detect anti-HNA-3a antibodies
- HNA genotype donor to help interpret results
- Use HNA Luminex bead test

4) What advice with regards to the future blood component use would you provide for these donors?

Donor 1:

- Resign donor from donating any product / therapeutic donations
- Use for red cell products only / no plasma containing products

Donor 2

- No restrictions, donor can continue to donate

Donor 3:

- Resign donor from donating any product / therapeutic donations
- Use for red cell products only / no plasma containing products

5) What steps are/can be taken to reduce the incidence of TRALI?

- Restrict plasma products to male donors only
- HLA and HNA antibody screen all female apheresis platelet donors
- Don't use donations from donors previously associated with potential TRALI incidence