KIDNEY ADVISORY GROUP

HLA DONOR DISCREPANCY MONITORING – 2017

Concordance between donor HLA types submitted to Organ Donation and Transplantation (ODT) from different laboratories is monitored.

BACKGROUND INFORMATION

A donor HLA type is submitted to ODT Hub-Operations from the offer laboratory on the ODT form, 'NHS Blood and Transplant HLA Report Form' (FRM4365). The form is provided electronically and the HLA type is manually typed into fields on the form. In some laboratories the ODT form has been replicated in the local laboratory system and the HLA type automatically downloads into the fields required, reducing the risk of transcription errors.

Pre-allocation

Deceased donor HLA types received by ODT-Hub Operations undergo automated consistency checks when entered onto the national database. This occurs before a 'matching run' is initiated and applies 5 basic rules:

1. There is consistency between HLA Broad/ split antigens/ alleles and valid WHO nomenclature is used
2. No more than 2 antigens/alleles can be reported at a single locus
3. Bw4/Bw6 antigen associations must be consistent with HLA-B locus antigens/alleles
4. DR51/51N/52/53/53N antigen associations must be consistent with HLA-DR locus antigens/alleles
5. DRB3/4/5 allele associations must be consistent with HLA-DR locus antigens/alleles and DR51/51N/52/53/53N antigens.

If a donor HLA type fails the checks, the National Transplant Liaison Co-ordinator contacts the laboratory, giving the reason for failure. The HLA type is then resolved by the laboratory prior to initiation of the matching run.

Anomalies detected by this automatic consistency checking do not impact on allocation.

Post allocation

Discrepancies in the HLA type may be identified after organ allocation. A laboratory may revise the HLA type after the offer type has been sent and contact ODT Hub-Operations with a 'Revised HLA type'. A discrepancy may also be detected if the donor is re-typed at the recipient centre laboratory.

Investigation and reporting

All anomalies/discrepancies are reported to the laboratory concerned and investigated. Laboratories respond giving reasons for the anomalies/ discrepancies and measures taken to minimise the risk of future occurrences. Reports are reviewed by the ODT Clinical Audit, Risk And Effectiveness Group (CARE) and also by the 'Donor Discrepancy Monitoring Group' which meets three times a year. This membership of this group, chaired by the Scientific Advisor, includes the Steering Committee for the UK National External Quality Assessment Scheme (NEQAS) for Histocompatibility & Immunogenetics (H&I).

Summary of Anomalies/Discrepancies
A summary of the results of the monitoring from 2015-17 is shown in **Table 1**. Anomalies were detected prior to allocation in 0.2% of donor offer types in 2017, compared to 0.4% in 2016 and 0.6% in 2015. Discrepancies detected after organ allocation occurred in 0.8% donor types in 2017, compared to 0.5% in 2016 and 1.2% in 2015. The reasons given for the anomalies/discrepancies in 21/2050 (1%) donor offer types in 2017 are summarised in **Table 2**.

Pre-allocation (n=4)
The majority, 3/4 (75%) of these anomalies resulted from clerical errors originating in the laboratory.

Post-allocation (n=17)
Technical/ Interpretation/ Nomenclature errors accounted for 8/17 (47%) discrepancies and a further 8/17 (47%) resulted from clerical errors. 1/17 (6%) resulted from a data entry error by ODT Hub-Operations. In 2/17 (12%) cases there was an impact on allocation with changes to the allocation sequence. One patient was transplanted against a low level HLA-Cw DSA (crossmatch negative) and in the other case incorrect allocation occurred and a patient was not offered the kidney because of a registered unacceptable HLA antigen.

Table 2 Anomalies/Discrepancies in Donor HLA types, 2017

Reason	**Pre- allocation** n= (%)	**Post allocation** n= (%)	**Overall** n= (%)
Clerical	3 (75%)	8 (47%)	11 (52%)
Technical/ Interpretation/ Nomenclature	0 (0%)	8 (47%)	8 (38%)
ODT Data Entry/ Procedural	1 (25%)	1 (6%)	2 (10%)
Total	**4**	**17**	**21**

Summary and Action
Over the last three years the level of discrepant donor HLA types reported and used for allocation ranged between 0.5% and 1.2%. This information is particularly important when transplanting sensitised patients following a virtual crossmatch. This information will be communicated to Directors of all Transplant Units and H&I Laboratories, so that all are aware of the discrepancy rate.

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