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Clinical decision making in UK and Ireland H&I Laboratories – results from the UK NEQAS for H&I's Interpretative Educational Scheme

Deborah Singleton, Tracey Rees & Chris Darke

Introduction

UK NEQAS for H&I introduced a free interpretative educational scheme in 2013.

2 or 3 clinical scenarios are distributed yearly covering solid organ, HSC transplantation or platelet transfusion. Each case provides laboratory test results and clinical information: they require affirmed clinical decisions/clinical advice.

Here were present the findings of the two 2014 scenarios from UK and Ireland laboratories.

Scenario 1: Renal Transplant Case

This scenario involved the listing of a new renal patient on the deceased donor transplant list and a subsequent DBD kidney transplant offer. 21 labs participated.

The scenario provided the HLA type of the patient and sensitising events, CDC and Luminex Single Antigen results for 2 sera (MFI range 0-7879, no CDC antibodies), details of deceased donor kidney offer and CDC and FC crossmatching results

From provided results, 19 participants would list some specificities as 'unacceptable antigens', 1 would not list any specificities and 1 response was ambiguous.

The number of specificities listed by the 19 labs varied from 5 to 14 (mean=10) but 87.5% were MFI>1000. All 19 laboratories listed HLA-A,B specificities of MFI>2500. Other listed specificities varied in HLA-Class and MFI values – see Table 1.

Table 1: Specificities selected as unacceptable antigens

Spec	MFI Range	No. of Labs	Spec	MFI Range	No. of Labs
A2	5497-7879	19	DR9	342-1255	6
B57	2595-6341	19	DP23	1217-1319	7
B58	2987-4621	19	DP11	40-1269	3
A69	2676-2710	19	DR7	881-921	1
B35	2872-3006	19	A29	229-734	0
A80	1299-2293	15	A68	0-475	1
Cw4	3489-3768	17	A31	374-933	0
B18	1627-1859	13	A33	189-545	0
DP1	1902-2239	10	B27	478-867	0
Cw2	1454-1643	13	DR13	253-663	0
DQ2	423-1187	10			

MFI Range is the lowest and highest MFI values over 2 serum samples. Specificities with MFI >500 shown.

When provided with potential donor crossmatching results, (CDC negative, weak flow cytometry B-cell positive) 100% of participants stated they would advise that the transplant proceed/donor is compatible.

Scenario 2: HSCT Case

This scenario involved an aplastic anaemia patient requiring a mismatched unrelated HSCT transplant and platelet transfusion support. 17 labs participated.

From the provided 6 donor search results, there were 6 different combinations of 3 donors selected for additional typing. 94.1% of labs included the same donor (donor 3) as one of their three selections, with 70.6% selecting it as their first choice (Figure1).

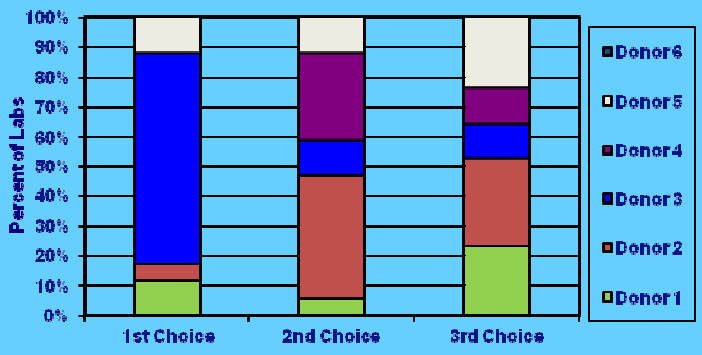

Figure 1: HSCT donor selection

When provided with 5 locus 2nd field typing on 4 potential donors, 94.1% of labs selected the same donor as their final choice for transplant. 100% of labs also stated they would provide the patient with HLA selected platelets.

Comment

Although the scenarios are not formally assessed they allow documented clinical interpretation/advice to be compared between laboratories. There was good agreement on some aspects of the scenarios, others (e.g. specificities to list as 'unacceptable antigens') showed greater variation.

Further Information

Full information on all UK NEQAS for H&I schemes is available at **www.neqashandi.org.uk** or contact the Scheme Manager at **ukneqashandi@wales.nhs.uk**

GIG CYMRU NHS WALES
Ymddiriedolaeth GIG Felindre
Velindre NHS Trust

WELSH TRANSPLANTATION AND IMMUNOGENETICS LABORATORY

Welsh Blood Service
Gwasanaeth Gwaed Cymru