# Interpretive Educational Scheme (iED)
# Clinical Scenario 1/2023 – Renal Transplantation

Dispatched on 30th May 2023

## Summary of Results

Samples from a patient requiring a kidney transplant were received in the laboratory. Details of the patient are shown in Table 1. The patient has not been tolerating dialysis well and has issues with venous access.

**Table 1: Patient Information**

| | |
|---|---|
| Patient ID | JB |
| Primary Disease | Pyelonephritis/Interstitial Nephritis |
| Donor Age | 39 |
| Donor Gender | Male |
| Patient HLA Type | A*01, A*02; B*08, B*39; C*07, C*-; DRB1*01, DRB1*03:01; DQB1*02, DQB1*05; DQA1*01, DQA1*05; DPB1*01:01, DPB1*10:01; DPA1*02, DPA1*- |
| ABO Group | A+ |
| Sensitising Events | *Previous Transplant from Donor X*:<br>Transplanted on 13/02/2009<br>Donor HLA type: A*01, A*02; B*08, B*35; C*07, C*12; DRB1*01, DRB1*03:01; DQB1*02, DQB1*05; DPB1*04:01, DPB1*04:02; DPA1*01:03, -<br><br>*Blood Transfusion*: 10 units received in 2019 |

The patient was tested using One Lambda LABScreen Single Antigen Bead (SAB) kits. Results are shown in Table 2a and 2b. All results are technically valid.

**Table 2a: Results from LABScreen SAB Class I Testing Across Multiple Sample Dates**

| One Lambda SAB Class I Kit - MFI | | | Sample Date | | |
|---|---|---|---|---|---|
| **Bead ID** | **Allele Specificity** | **Specificity** | **03/12/2021** | **20/08/2021** | **03/03/2021** |
| 3 | A*01:01 | A1 | 0 | 0 | 215 |
| 5 | A*02:03 | A2 | 2102 | 545 | 1193 |
| 6 | A*02:06 | A2 | 468 | 41 | 309 |
| 4 | A*02:01 | A2 | 0 | 21 | 56 |
| 7 | A*03:01 | A3 | 0 | 0 | 0 |
| 9 | A*11:02 | A11 | 1731 | 378 | 1659 |
| 8 | A*11:01 | A11 | 1282 | 290 | 1571 |
| 10 | A*23:01 | A23 | 0 | 10 | 145 |
| 11 | A*24:02 | A24 | 315 | 46 | 406 |
| 12 | A*24:03 | A24 | 0 | 103 | 670 |
| 13 | A*25:01 | A25 | 192 | 127 | 913 |

| | | | | | |
|---|---|---|---|---|---|
| 14 | A*26:01 | A26 | 346 | 127 | 1234 |
| 17 | A*29:02 | A29 | 1256 | 292 | 1301 |
| 15 | A*29:01 | A29 | 1183 | 252 | 1092 |
| 19 | A*30:02 | A30 | 1159 | 56 | 423 |
| 18 | A*30:01 | A30 | 394 | 54 | 396 |
| 20 | A*31:01 | A31 | 0 | 12 | 212 |
| 21 | A*32:01 | A32 | 0 | 109 | 858 |
| 100 | A*33:03 | A33 | 2705 | 766 | 4854 |
| 22 | A*33:01 | A33 | 831 | 284 | 1712 |
| 23 | A*34:01 | A34 | 3076 | 816 | 3388 |
| 24 | A*34:02 | A34 | 2353 | 569 | 4154 |
| 25 | A*36:01 | A36 | 0 | 67 | 446 |
| 26 | A*43:01 | A43 | 2941 | 428 | 1526 |
| 28 | A*66:02 | A66 | 15596 | 5337 | 15227 |
| 27 | A*66:01 | A66 | 848 | 310 | 1449 |
| 30 | A*68:02 | A68 | 12138 | 414 | 2868 |
| 29 | A*68:01 | A68 | 3716 | 1040 | 5552 |
| 31 | A*69:01 | A69 | 1608 | 245 | 2474 |
| 32 | A*74:01 | A74 | 0 | 89 | 488 |
| 33 | A*80:01 | A80 | 13148 | 5673 | 15132 |
| 97 | B*13:01 | B13 | 6276 | 1197 | 4948 |
| 36 | B*13:02 | B13 | 6174 | 1655 | 5345 |
| 47 | B*18:01 | B18 | 17203 | 6585 | 17669 |
| 48 | B*27:08 | B27 | 5391 | 761 | 3076 |
| 16 | B*27:05 | B27 | 3825 | 528 | 3515 |
| 49 | B*35:01 | B35 | 27597 | 14421 | 24224 |
| 50 | B*37:01 | B37 | 6483 | 2307 | 7595 |
| 51 | B*38:01 | B38 | 897 | 265 | 1359 |
| 52 | B*39:01 | B39 | 308 | 128 | 839 |
| 55 | B*41:01 | B41 | 3123 | 478 | 1912 |
| 56 | B*42:01 | B42 | 1168 | 262 | 962 |
| 58 | B*44:03 | B44 | 5444 | 1215 | 3222 |
| 57 | B*44:02 | B44 | 5250 | 667 | 1948 |
| 59 | B*45:01 | B45 | 5233 | 1174 | 5327 |
| 63 | B*46:01 | B46 | 27553 | 15839 | 23994 |
| 61 | B*47:01 | B47 | 2910 | 348 | 2135 |
| 62 | B*48:01 | B48 | 1427 | 326 | 1915 |
| 60 | B*49:01 | B49 | 24090 | 12403 | 21418 |
| 64 | B*50:01 | B50 | 22885 | 11102 | 19389 |
| 66 | B*51:02 | B51 | 27696 | 15572 | 23833 |
| 65 | B*51:01 | B51 | 26541 | 14732 | 24217 |
| 67 | B*52:01 | B52 | 25960 | 8450 | 16974 |
| 68 | B*53:01 | B53 | 27355 | 15176 | 24713 |
| 69 | B*54:01 | B54 | 14828 | 4148 | 10413 |

| | | | | | |
|---|---|---|---|---|---|
| 70 | B*55:01 | B55 | 7491 | 1109 | 4757 |
| 71 | B*56:01 | B56 | 24980 | 11102 | 1950 |
| 73 | B*57:03 | B57 | 16751 | 5174 | 9077 |
| 72 | B*57:01 | B57 | 18834 | 5150 | 9682 |
| 74 | B*58:01 | B58 | 20168 | 5778 | 10968 |
| 75 | B*59:01 | B59 | 4385 | 754 | 3824 |
| 53 | B*40:01 | B60 | 3106 | 613 | 2651 |
| 99 | B*40:06 | B61 | 7931 | 1476 | 4611 |
| 54 | B*40:02 | B61 | 3876 | 1037 | 3482 |
| 40 | B*15:01 | B62 | 25079 | 9498 | 17040 |
| 46 | B*15:16 | B63 | 23661 | 9166 | 15435 |
| 37 | B*14:01 | B64 | 4290 | 1277 | 4519 |
| 38 | B*14:02 | B65 | 3662 | 759 | 3341 |
| 76 | B*67:01 | B67 | 697 | 311 | 1171 |
| 34 | B*07:02 | B7 | 10220 | 3687 | 7065 |
| 43 | B*15:10 | B71 | 25316 | 11043 | 19336 |
| 42 | B*15:03 | B72 | 22457 | 9470 | 15974 |
| 77 | B*73:01 | B73 | 19828 | 4375 | 12684 |
| 98 | B*15:11 | B75 | 26462 | 12661 | 20271 |
| 41 | B*15:02 | B75 | 26833 | 11405 | 19516 |
| 44 | B*15:12 | B76 | 6930 | 1189 | 3238 |
| 45 | B*15:13 | B77 | 27314 | 10092 | 17466 |
| 78 | B*78:01 | B78 | 29223 | 14375 | 24192 |
| 35 | B*08:01 | B8 | 474 | 91 | 751 |
| 79 | B*81:01 | B81 | 2208 | 424 | 1753 |
| 80 | B*82:01 | B82 | 2056 | 348 | 1880 |
| 81 | C*01:02 | Cw1 | 27135 | 15206 | 23505 |
| 83 | C*03:02 | Cw10 | 27962 | 15413 | 24421 |
| 85 | C*03:04 | Cw10 | 26353 | 16014 | 23826 |
| 91 | C*12:03 | Cw12 | 27703 | 17263 | 24379 |
| 92 | C*14:02 | Cw14 | 33080 | 15027 | 25061 |
| 93 | C*15:02 | Cw15 | 26874 | 15574 | 22884 |
| 94 | C*16:01 | Cw16 | 33452 | 17344 | 27108 |
| 95 | C*17:01 | Cw17 | 25486 | 8460 | 16084 |
| 96 | C*18:02 | Cw18 | 30038 | 15723 | 26483 |
| 82 | C*02:02 | Cw2 | 31494 | 17204 | 25283 |
| 86 | C*04:01 | Cw4 | 35287 | 15740 | 26924 |
| 87 | C*05:01 | Cw5 | 28356 | 16422 | 24019 |
| 88 | C*06:02 | Cw6 | 31248 | 17579 | 25169 |
| 89 | C*07:02 | Cw7 | 6108 | 1565 | 4913 |
| 90 | C*08:01 | Cw8 | 29108 | 16649 | 25399 |
| 84 | C*03:03 | Cw9 | 27289 | 15507 | 23750 |

**Table 2b: Results from LABScreen SAB Class II Test Results Across Multiple Sample Dates**

| One Lambda SAB Class II Kit - MFI | | | Sample Date | | |
|---|---|---|---|---|---|
| Bead ID | Allele Specificity | Specificity | 03/12/2021 | 20/08/2021 | 03/03/2021 |
| 68 | DPA1*02:01, DPB1*01:01 | DP1 | 0 | 0 | 0 |
| 67 | DPA1*01:03, DPB1*01:01 | DP1 | 7847 | 6141 | 8338 |
| 80 | DPA1*02:02, DPB1*10:01 | DP10 | 337 | 169 | 319 |
| 81 | DPA1*01:03, DPB1*11:01 | DP11 | 7659 | 7192 | 8434 |
| 97 | DPA1*02:02, DPB1*11:01 | DP11 | 1652 | 572 | 599 |
| 85 | DPA1*03:01, DPB1*13:01 | DP13 | 26009 | 19985 | 23740 |
| 83 | DPA1*02:01, DPB1*13:01 | DP13 | 290 | 165 | 270 |
| 84 | DPA1*02:02, DPB1*13:01 | DP13 | 261 | 240 | 277 |
| 86 | DPA1*02:01, DPB1*14:01 | DP14 | 198 | 258 | 207 |
| 87 | DPA1*02:01, DPB1*15:01 | DP15 | 26943 | 20124 | 23716 |
| 88 | DPA1*02:01, DPB1*17:01 | DP17 | 16704 | 12963 | 15466 |
| 89 | DPA1*02:01, DPB1*18:01 | DP18 | 28548 | 23560 | 24690 |
| 91 | DPA1*01:04, DPB1*18:01 | DP18 | 27548 | 22610 | 24684 |
| 90 | DPA1*01:05, DPB1*18:01 | DP18 | 27441 | 22879 | 24642 |
| 92 | DPA1*01:03, DPB1*19:01 | DP19 | 9541 | 7492 | 8501 |
| 93 | DPA1*03:01, DPB1*20:01 | DP20 | 27732 | 21712 | 24113 |
| 94 | DPA1*01:03, DPB1*23:01 | DP23 | 7840 | 7838 | 8690 |
| 82 | DPA1*01:03, DPB1*28:01 | DP28 | 8647 | 7438 | 8831 |
| 95 | DPA1*01:05, DPB1*28:01 | DP28 | 28629 | 23244 | 24756 |
| 69 | DPA1*01:03, DPB1*02:01 | DP28 | 8553 | 7582 | 9497 |
| 96 | DPA1*04:01, DPB1*28:01 | DP28 | 27503 | 22799 | 24554 |
| 72 | DPA1*01:05, DPB1*03:01 | DP3 | 8907 | 6837 | 8450 |
| 71 | DPA1*01:03, DPB1*03:01 | DP3 | 8599 | 5570 | 8517 |
| 73 | DPA1*02:01, DPB1*03:01 | DP3 | 129 | 62 | 170 |
| 74 | DPA1*01:03, DPB1*04:01 | DP4 | 8919 | 6215 | 8754 |
| 75 | DPA1*01:03, DPB1*04:02 | DP4 | 8258 | 6348 | 8691 |
| 76 | DPA1*02:01, DPB1*05:01 | DP5 | 1816 | 477 | 770 |
| 70 | DPA1*02:02, DPB1*05:01 | DP5 | 0 | 0 | 0 |
| 78 | DPA1*01:03, DPB1*06:01 | DP6 | 6779 | 7550 | 9747 |
| 77 | DPA1*02:01, DPB1*06:01 | DP6 | 831 | 677 | 1075 |
| 79 | DPA1*02:01, DPB1*09:01 | DP9 | 65 | 98 | 134 |
| 42 | DQA1*05:01, DQB1*02:01 | DQ2 | 528 | 686 | 848 |
| 43 | DQA1*02:01, DQB1*02:02 | DQ2 | 0 | 38 | 58 |
| 41 | DQA1*04:01, DQB1*02:01 | DQ2 | 0 | 19 | 54 |
| 40 | DQA1*03:01, DQB1*02:01 | DQ2 | 0 | 24 | 27 |
| 39 | DQA1*02:01, DQB1*02:01 | DQ2 | 0 | 0 | 0 |
| 47 | DQA1*04:01, DQB1*04:02 | DQ4 | 195 | 133 | 109 |
| 44 | DQA1*02:01, DQB1*04:01 | DQ4 | 14 | 104 | 199 |
| 46 | DQA1*02:01, DQB1*04:02 | DQ4 | 0 | 79 | 80 |

| | | | | | |
|---|---|---|---|---|---|
| 45 | DQA1*03:03, DQB1*04:01 | DQ4 | 0 | 0 | 0 |
| 49 | DQA1*01:02, DQB1*05:02 | DQ5 | 0 | 0 | 0 |
| 48 | DQA1*01:01, DQB1*05:01 | DQ5 | 0 | 0 | 31 |
| 50 | DQA1*01:03, DQB1*06:01 | DQ6 | 264 | 314 | 337 |
| 53 | DQA1*01:03, DQB1*06:03 | DQ6 | 115 | 90 | 114 |
| 55 | DQA1*01:02, DQB1*06:09 | DQ6 | 0 | 0 | 0 |
| 54 | DQA1*01:02, DQB1*06:04 | DQ6 | 0 | 57 | 39 |
| 52 | DQA1*01:01, DQB1*06:02 | DQ6 | 0 | 32 | 0 |
| 51 | DQA1*01:02, DQB1*06:02, | DQ6 | 0 | 12 | 31 |
| 59 | DQA1*05:05, DQB1*03:19 | DQ7 | 1481 | 938 | 1291 |
| 56 | DQA1*03:01, DQB1*03:01 | DQ7 | 998 | 207 | 315 |
| 58 | DQA1*05:03, DQB1*03:01 | DQ7 | 420 | 344 | 404 |
| 60 | DQA1*06:01, DQB1*03:01 | DQ7 | 304 | 447 | 482 |
| 57 | DQA1*02:01, DQB1*03:01 | DQ7 | 50 | 89 | 71 |
| 61 | DQA1*02:01, DQB1*03:02 | DQ8 | 449 | 190 | 292 |
| 63 | DQA1*03:02, DQB1*03:02 | DQ8 | 295 | 186 | 285 |
| 62 | DQA1*03:01, DQB1*03:02 | DQ8 | 250 | 97 | 273 |
| 65 | DQA1*03:01, DQB1*03:03 | DQ9 | 740 | 142 | 219 |
| 66 | DQA1*03:02, DQB1*03:03 | DQ9 | 124 | 138 | 204 |
| 64 | DQA1*02:01, DQB1*03:03 | DQ9 | 51 | 70 | 62 |
| 4 | DRB1*01:02 | DR1 | 0 | 0 | 0 |
| 3 | DRB1*01:01 | DR1 | 0 | 0 | 0 |
| 17 | DRB1*10:01 | DR10 | 0 | 0 | 0 |
| 5 | DRB1*01:03 | DR103 | 0 | 0 | 13 |
| 19 | DRB1*11:04 | DR11 | 12 | 36 | 86 |
| 18 | DRB1*11:01 | DR11 | 0 | 0 | 27 |
| 21 | DRB1*12:02 | DR12 | 0 | 0 | 0 |
| 20 | DRB1*12:01 | DR12 | 0 | 0 | 0 |
| 23 | DRB1*13:03 | DR13 | 0 | 0 | 0 |
| 22 | DRB1*13:01 | DR13 | 0 | 0 | 0 |
| 24 | DRB1*14:01 | DR14 | 90 | 135 | 171 |
| 26 | DRB1*14:54 | DR14 | 0 | 0 | 0 |
| 25 | DRB1*14:02 | DR14 | 0 | 0 | 0 |
| 27 | DRB1*15:01 | DR15 | 115 | 152 | 253 |
| 29 | DRB1*15:03 | DR15 | 0 | 0 | 0 |
| 28 | DRB1*15:02 | DR15 | 0 | 49 | 50 |
| 31 | DRB1*16:02 | DR16 | 0 | 155 | 225 |
| 30 | DRB1*16:01 | DR16 | 0 | 0 | 0 |
| 6 | DRB1*03:01 | DR17 | 0 | 0 | 0 |
| 7 | DRB1*03:02 | DR18 | 0 | 0 | 0 |
| 13 | DRB1*04:03 | DR4 | 307 | 201 | 249 |
| 11 | DRB1*04:05 | DR4 | 0 | 0 | 3 |
| 10 | DRB1*04:04 | DR4 | 0 | 0 | 0 |
| 9 | DRB1*04:02 | DR4 | 0 | 0 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| 8 | DRB1*04:01 | DR4 | 0 | 0 | 0 |
| 38 | DRB5*02:02 | DR51 | 0 | 0 | 0 |
| 37 | DRB5*01:01 | DR51 | 0 | 0 | 0 |
| 32 | DRB3*01:01 | DR52 | 108 | 137 | 94 |
| 34 | DRB3*03:01 | DR52 | 0 | 155 | 227 |
| 33 | DRB3*02:02 | DR52 | 0 | 18 | 103 |
| 36 | DRB4*01:03 | DR53 | 0 | 0 | 0 |
| 35 | DRB4*01:01 | DR53 | 0 | 0 | 0 |
| 12 | DRB1*07:01 | DR7 | 0 | 0 | 13 |
| 14 | DRB1*08:01 | DR8 | 0 | 94 | 70 |
| 15 | DRB1*09:01 | DR9 | 10 | 203 | 134 |
| 16 | DRB1*09:02 | DR9 | 0 | 0 | 10 |

The patient was listed on the deceased donor transplant register for a kidney transplant in December 2021.

**Q1.1) What, if any, antibodies would you class as unacceptable to transplant against (unacceptable antigens)?**

| Specificity | Summary | | |
|---|---|---|---|
| | UK&I % | RoW % | Total % |
| A1 | 0 | 0 | 0 |
| A2 | 14 | 14 | 14 |
| A3 | 0 | 0 | 0 |
| A11 | 7 | 14 | 11 |
| A23 | 0 | 0 | 0 |
| A24 | 0 | 0 | 0 |
| A25 | 0 | 0 | 0 |
| A26 | 0 | 5 | 3 |
| A29 | 7 | 5 | 6 |
| A30 | 0 | 10 | 6 |
| A31 | 0 | 0 | 0 |
| A32 | 0 | 0 | 0 |
| A33 | 57 | 62 | 60 |
| A34 | 93 | 62 | 74 |
| A36 | 0 | 0 | 0 |
| A43 | 36 | 38 | 37 |
| A66 | 86 | 67 | 74 |
| A68 | 100 | 71 | 83 |
| A69 | 43 | 38 | 40 |
| A74 | 0 | 0 | 0 |
| A80 | 100 | 76 | 86 |
| B13 | 93 | 67 | 77 |
| B18 | 100 | 76 | 86 |
| B27 | 93 | 57 | 71 |
| B35 | 100 | 100 | 100 |
| B37 | 93 | 62 | 74 |
| B38 | 0 | 10 | 6 |
| B39 | 0 | 0 | 0 |
| B41 | 57 | 43 | 49 |
| B42 | 0 | 10 | 6 |
| B44 | 86 | 57 | 69 |
| B45 | 93 | 67 | 77 |
| B46 | 100 | 81 | 89 |
| B47 | 71 | 48 | 57 |
| B48 | 14 | 14 | 14 |
| B49 | 100 | 76 | 86 |
| B50 | 100 | 81 | 89 |
| B51 | 93 | 81 | 86 |
| B52 | 93 | 76 | 83 |
| B53 | 93 | 81 | 86 |

| Specificity | Summary | | |
|---|---|---|---|
| | UK&I % | RoW % | Total % |
| B54 | 93 | 76 | 83 |
| B55 | 93 | 57 | 71 |
| B56 | 93 | 76 | 83 |
| B57 | 93 | 76 | 83 |
| B58 | 93 | 81 | 86 |
| B59 | 86 | 62 | 71 |
| B60 | 86 | 48 | 63 |
| B61 | 100 | 57 | 74 |
| B62 | 100 | 76 | 86 |
| B63 | 100 | 76 | 86 |
| B64 | 93 | 52 | 69 |
| B65 | 93 | 48 | 66 |
| B67 | 0 | 14 | 9 |
| B7 | 100 | 57 | 74 |
| B71 | 100 | 76 | 86 |
| B72 | 100 | 76 | 86 |
| B73 | 100 | 71 | 83 |
| B75 | 100 | 76 | 86 |
| B76 | 100 | 48 | 69 |
| B77 | 93 | 81 | 86 |
| B78 | 100 | 76 | 86 |
| B8 | 0 | 0 | 0 |
| B81 | 50 | 38 | 43 |
| B82 | 50 | 38 | 43 |
| Cw1 | 100 | 71 | 83 |
| Cw10 | 100 | 71 | 83 |
| Cw12 | 100 | 90 | 94 |
| Cw14 | 100 | 71 | 83 |
| Cw15 | 100 | 71 | 83 |
| Cw16 | 100 | 71 | 83 |
| Cw17 | 100 | 67 | 80 |
| Cw18 | 100 | 71 | 83 |
| Cw2 | 100 | 71 | 83 |
| Cw4 | 100 | 71 | 83 |
| Cw5 | 100 | 71 | 83 |
| Cw6 | 100 | 71 | 83 |
| Cw7 | 14 | 33 | 26 |
| Cw8 | 100 | 71 | 83 |
| Cw9 | 100 | 71 | 83 |

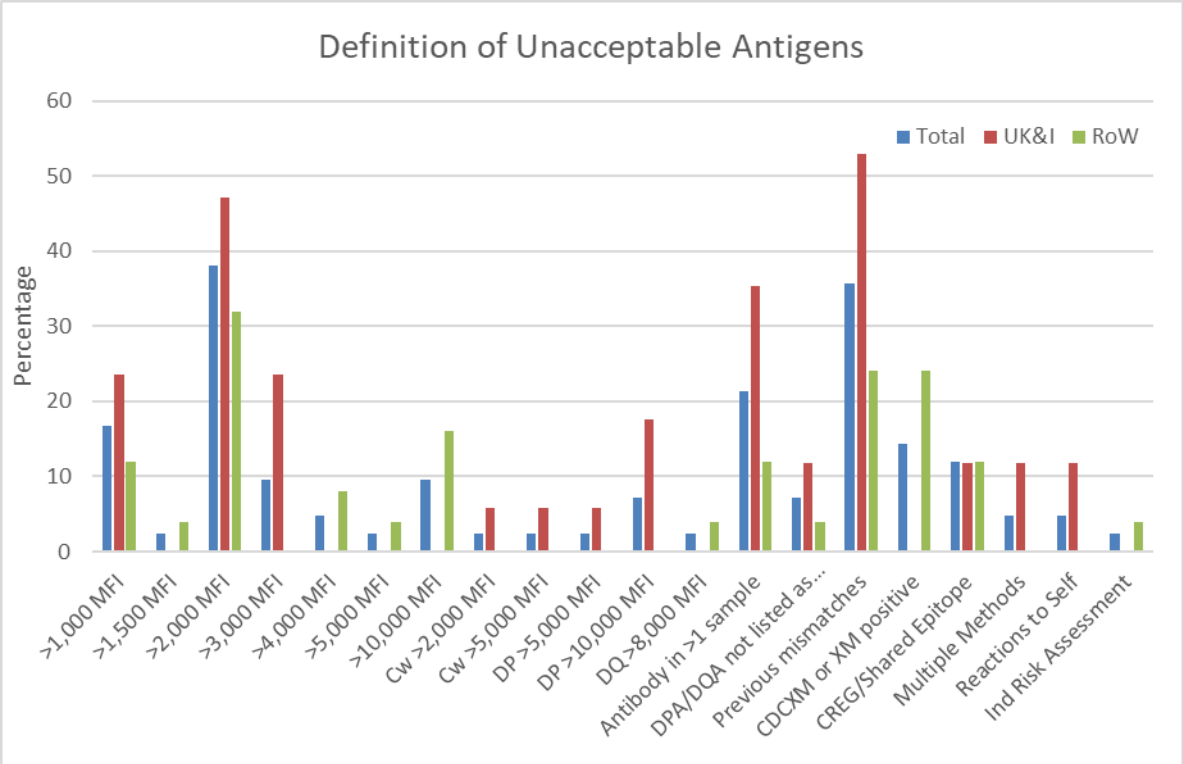
| Specificity | Summary | | |
|---|---|---|---|
| | UK&I % | RoW % | Total % |
| DP1 | 0 | 4 | 3 |
| DP2 | 29 | 13 | 19 |
| DP10 | 0 | 9 | 5 |
| DP11 | 7 | 17 | 14 |
| DP13 | 21 | 13 | 16 |
| DP14 | 0 | 0 | 0 |
| DP15 | 100 | 65 | 78 |
| DP17 | 100 | 65 | 78 |
| DP18 | 100 | 65 | 78 |
| DP19 | 50 | 30 | 38 |
| DP20 | 71 | 39 | 51 |
| DP23 | 64 | 35 | 46 |
| DP28 | 93 | 65 | 76 |
| DP3 | 14 | 13 | 14 |
| DP4:01 | 79 | 65 | 70 |
| DP4:02 | 79 | 70 | 73 |
| DP5 | 0 | 4 | 3 |
| DP6 | 21 | 22 | 22 |
| DP9 | 0 | 0 | 0 |
| DQ2 | 0 | 0 | 0 |
| DQ4 | 0 | 0 | 0 |
| DQ5 | 0 | 0 | 0 |
| DQ6 | 0 | 0 | 0 |
| DQ7 | 0 | 0 | 0 |
| DQ8 | 0 | 0 | 0 |
| DQ9 | 0 | 0 | 0 |
| DR1 | 0 | 0 | 0 |
| DR10 | 0 | 0 | 0 |
| DR103 | 0 | 0 | 0 |
| DR11 | 0 | 0 | 0 |
| DR12 | 0 | 0 | 0 |
| DR13 | 0 | 0 | 0 |
| DR14 | 0 | 0 | 0 |
| DR15 | 0 | 0 | 0 |
| DR16 | 0 | 0 | 0 |
| DR17 | 0 | 0 | 0 |
| DR18 | 0 | 0 | 0 |
| DR4 | 0 | 0 | 0 |
| DR51 | 0 | 0 | 0 |
| DR52 | 0 | 0 | 0 |
| DR53 | 0 | 0 | 0 |
| DR7 | 0 | 0 | 0 |
| DR8 | 0 | 0 | 0 |
| DR9 | 0 | 0 | 0 |
| DPA1*01:03 | 36 | 70 | 57 |
| DPA1*01:04 | 14 | 26 | 22 |
| DPA1*01:05 | 29 | 39 | 35 |
| DPA1*03:01 | 21 | 39 | 32 |
| DPA1*04:01 | 7 | 4 | 5 |
| DPA1*02:01 | 0 | 9 | 5 |
| DQA1*05:05 | 0 | 9 | 5 |
| DQB1*03:19 | 0 | 4 | 3 |

**Other responses:**

| | |
|---|---|
| **UK&I** | • List everything above potential Cw self (C*07:02). From associations patient likely type C*07:01 (not on OL kit) so this may not be self. There are two epitope differences between C*07:01 and C*07:02 (including 65QKR). Interestingly the 65QKR epitope is present on the previous MM likely C*12 allele. List DPB specificities with strong association with reacting DPA specificities. A note to the patients file indicating the risk of a positive crossmatch would be made.<br>• We would class any antibody with an MFI over 3,000 which is seen on two occasions and list all as unacceptable antigens. For DPB1 list with MFI over 10,000.<br>• Broadly, we would list specificities >2000 MFI as Unacceptable Antigens, based on most-recent serum sample. We note, however, the high MFI of the Cw7 bead, which is a self antigen that cannot be listed. This calls into question the reliability of this assay for making these decisions without other evidence of whether these antibody specificities are genuine. |
| **RoW** | • All with MFI over 2000.<br>• All Antibodies against HLA-A, -B, DRB1 > 1000 MFI and anti-HLA-DQ >8000 MFI.<br>• All HLA-antibodies directed against repeated HLA-mismatches (independent of MFI). Generally renal transplantation against DSAs > 3000 MFI is not performed. We do not generally define unacceptable mismatches for our common waitlist.<br>• Any antigen to which the patient has DSA antibodies to with an MFI over 1500. |

**Q1.2) How do you define unacceptable antigens?**

| Definition | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| **>1,000 MFI** | 7 | **17** | 4 | **24** | 3 | **12** |
| **>1,500 MFI** | 1 | **2** | 0 | **0** | 1 | **4** |
| **>2,000 MFI** | 16 | **38** | 8 | **47** | 8 | **32** |
| **>3,000 MFI** | 4 | **10** | 4 | **24** | 0 | **0** |
| **>4,000 MFI** | 2 | **5** | 0 | **0** | 2 | **8** |
| **>5,000 MFI** | 1 | **2** | 0 | **0** | 1 | **4** |
| **>10,000 MFI** | 4 | **10** | 0 | **0** | 4 | **16** |
| **Cw >2,000 MFI** | 1 | **2** | 1 | **6** | 0 | **0** |
| **Cw >5,000 MFI** | 1 | **2** | 1 | **6** | 0 | **0** |
| **DP >5,000 MFI** | 1 | **2** | 1 | **6** | 0 | **0** |
| **DP >10,000 MFI** | 3 | **7** | 3 | **18** | 0 | **0** |
| **DQ >8,000 MFI** | 1 | **2** | 0 | **0** | 1 | **4** |
| **Antibody in >1 sample** | 9 | **21** | 6 | **35** | 3 | **12** |
| **DPA/DQA not listed as UA** | 3 | **7** | 2 | **12** | 1 | **4** |
| **Previous mismatches** | 15 | **36** | 9 | **53** | 6 | **24** |
| **CDCXM or XM positive** | 6 | **14** | 0 | **0** | 6 | **24** |
| **CREG/Shared Epitope** | 5 | **12** | 2 | **12** | 3 | **12** |
| **Detected by Multiple Methods** | 2 | **5** | 2 | **12** | 0 | **0** |
| **Adjust Against Reactions to Self** | 2 | **5** | 2 | **12** | 0 | **0** |
| **Individual Risk Assessment** | 1 | **2** | 0 | **0** | 1 | **4** |



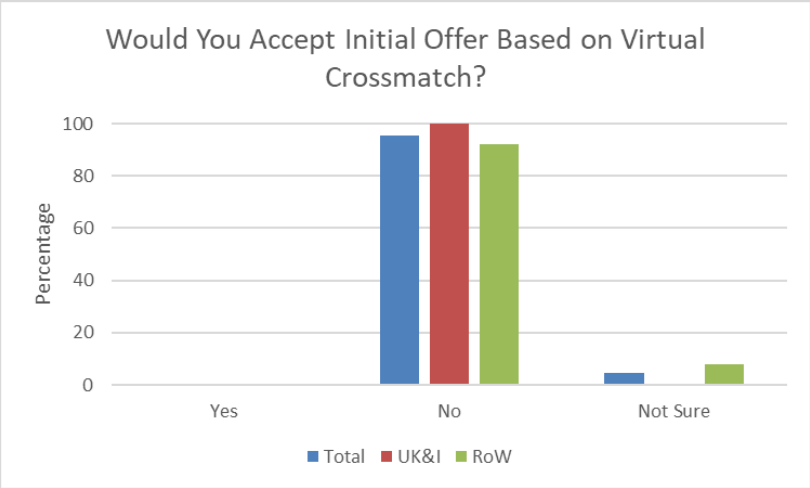

The patient receives a deceased donor offer in January 2022. Details of the donor are provided in Table 3.

**Table 3: Details of Deceased Donor Offer 1**

| | |
|---|---|
| Donor Type | DBD |
| Donor HLA Type | A*01, A*24:02; B*08, B*39; C*07, C*-; DRB1*08, DRB1*03:01; DQB1*02, DQB1*04; DQA1*04, DQA1*05; DPB1*01:01, DPB1*03:01; DPA1*01:03, DPA1*02 |
| Mismatch Grade | 101 |
| Donor Age | 49 |
| Donor Gender | Male |

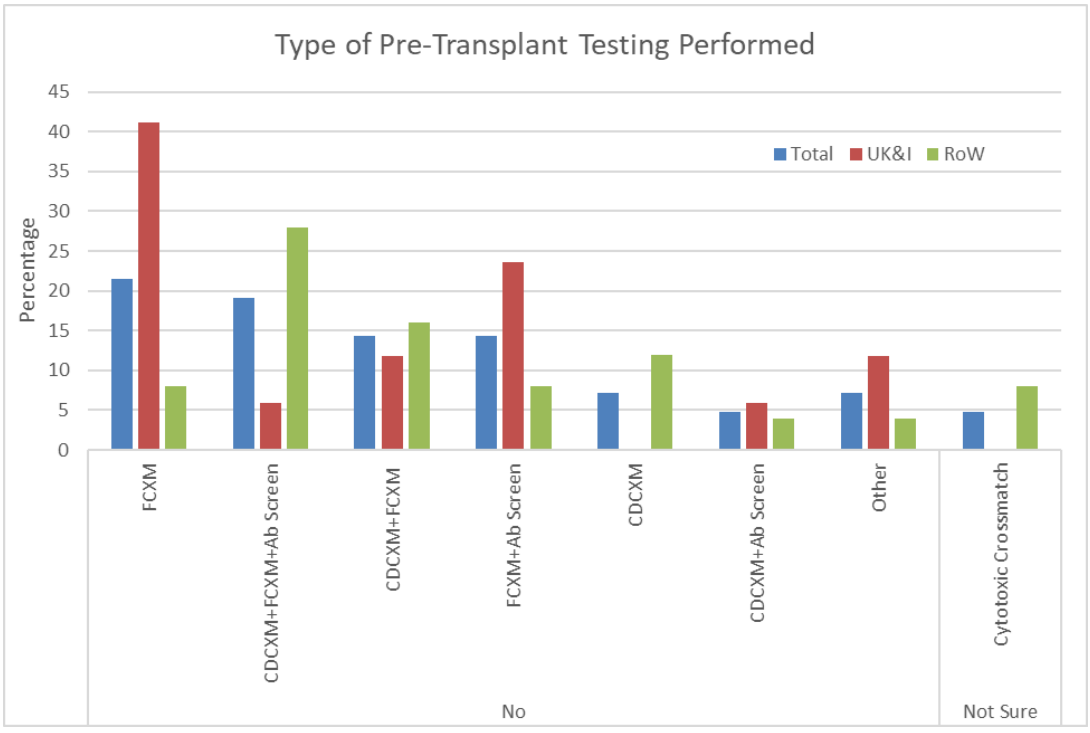
**Q2.1) Would you accept this offer based on a virtual crossmatch (the omission of any pre-transplant testing)?**

| Response | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| **Yes** | 0 | **0** | 0 | **0** | 0 | **0** |
| **No** | 40 | **95** | 17 | **100** | 23 | **92** |
| **Not Sure** | 2 | **5** | 0 | **0** | 2 | **8** |




**Q2.2) If you would not accept this offer based on a virtual crossmatch what pre-transplant testing would you perform?**

| Response | Reason | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % |
| No | FCXM | 9 | 21 | 7 | 41 | 2 | 8 |
| | CDCXM+FCXM+Ab Screen | 8 | 19 | 1 | 6 | 7 | 28 |
| | CDCXM+FCXM | 6 | 14 | 2 | 12 | 4 | 16 |
| | FCXM+Ab Screen | 6 | 14 | 4 | 24 | 2 | 8 |
| | CDCXM | 3 | 7 | 0 | 0 | 3 | 12 |
| | CDCXM+Ab Screen | 2 | 5 | 1 | 6 | 1 | 4 |
| | Other | 3 | 7 | 2 | 12 | 1 | 4 |
| Not Sure | Cytotoxic Crossmatch | 2 | 5 | 0 | 0 | 2 | 8 |

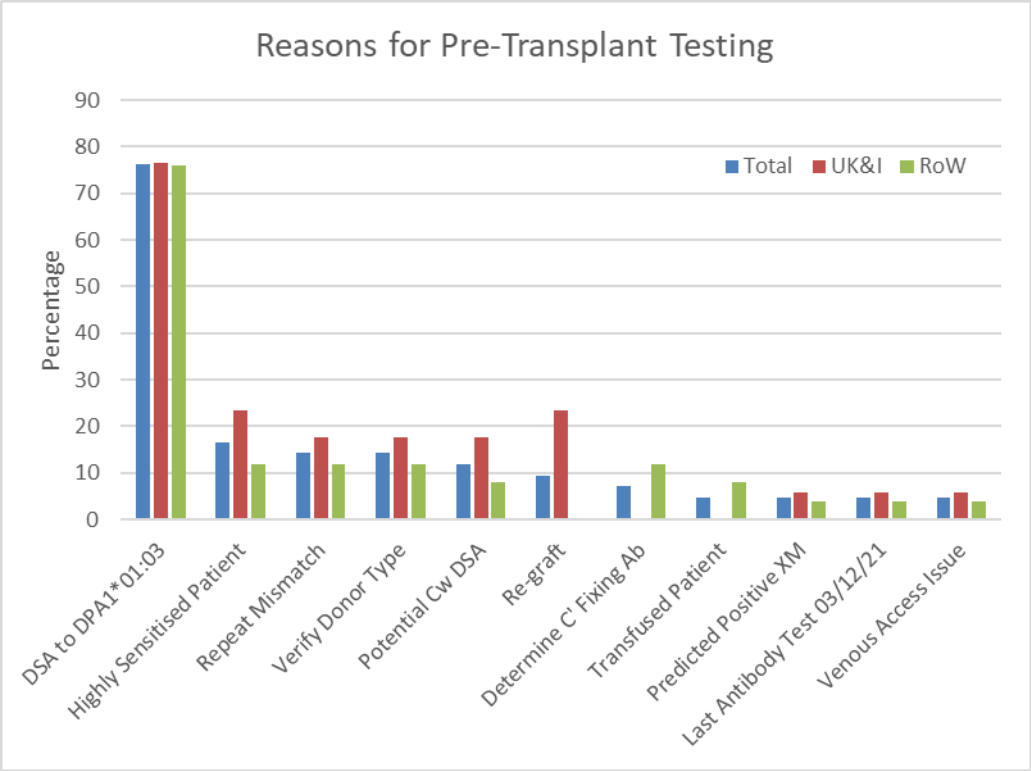


**Other responses:**

| | |
|---|---|
| **UK&I** | • A discussion would be had with the clinical team to discuss the high likelihood of a positive flow crossmatch due to the presence of high level of DPA1*01:03 DSA which is also a repeat mismatch. The discussion would also include the option of doing further testing including CDC and flow cytometry crossmatching to confirm the level of risk.<br>• In addition to allogeneic flow cytometric crossmatch, we would also perform autologous flow cytometric crossmatch.<br>• HLA typing using LinkSeq SABR kit if time allowed and samples available, to ascertain Cw7 alleles present in donor and recipient.<br>• None. A compatibility check at time of offer would highlight unacceptable DPA1*01:03 antigen and the offer would be rejected.<br>• Verification of donor HLA type. |
| **RoW** | • Two fields donor HLA-C*typing.<br>• B cell Cytotoxic Crossmatching.<br>• We would not omit from pre-transplant testing as it is an immunological challenging patient (highly immunized due previous TX and transfusions).<br>• C1q, NGS typing on donor.<br>• High resolution HLA typing on both donor and patient.<br>• Check LABScreen results on seraclean treated serum and on Immucor Lifescreen and LSA kits (notably to confirm locus C immunisation) |

**Q2.3) Why have you made this decision?**

| Definition | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| **DSA to DPA1*01:03** | 32 | **76** | 13 | **76** | 19 | **76** |
| **Highly Sensitised Patient** | 7 | **17** | 4 | **24** | 3 | **12** |
| **Repeat Mismatch** | 6 | **14** | 3 | **18** | 3 | **12** |
| **Verify Donor Type** | 6 | **14** | 3 | **18** | 3 | **12** |
| **Potential Cw Allele Specific DSA** | 5 | **12** | 3 | **18** | 2 | **8** |
| **Re-graft** | 4 | **10** | 4 | **24** | 0 | **0** |
| **Determine Complement Fixing Antibodies** | 3 | **7** | 0 | **0** | 3 | **12** |
| **Transfused Patient** | 2 | **5** | 0 | **0** | 2 | **8** |
| **Predicted Positive Crossmatch** | 2 | **5** | 1 | **6** | 1 | **4** |
| **Last Antibody Test 03/12/21** | 2 | **5** | 1 | **6** | 1 | **4** |
| **Venous Access Issue** | 2 | **5** | 1 | **6** | 1 | **4** |




A flow cytometry crossmatch was performed, the results are shown in Table 4.

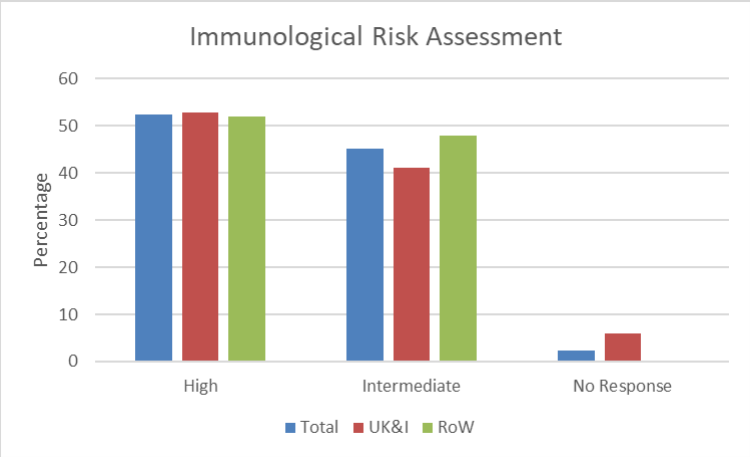
**Table 4: Details of Flow Cytometry Crossmatch Results for Deceased Donor Offer 1**

| FCXM Results | Allogeneic Results | | | |
|---|---|---|---|---|
| | T-Cell | LCS* | B-Cell | LCS* |
| 03/03/2021 | **NEG** | 11 | **POS** | 106 |
| 03/12/2021 | **NEG** | 2 | **POS** | 96 |

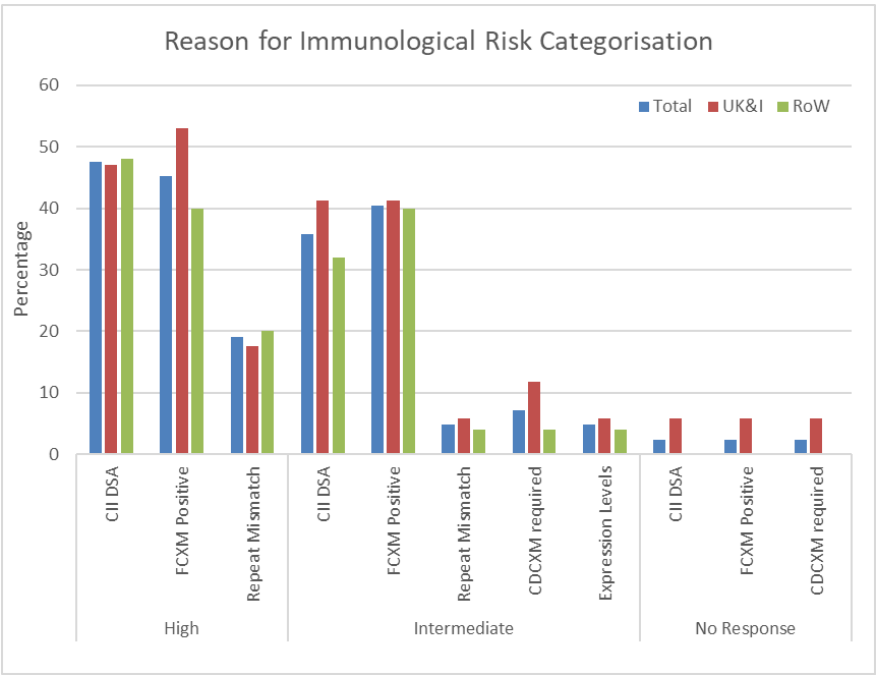
**A Linear Channel Shift (LCS) of ≥40 is considered positive*

**Q2.4) – What immunological risk would you now assign to this transplant and why?**

| Response | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| **High** | 22 | **52** | 9 | **53** | 13 | **52** |
| **Intermediate** | 19 | **45** | 7 | **41** | 12 | **48** |
| **No Response** | 1 | **2** | 1 | **6** | 0 | **0** |

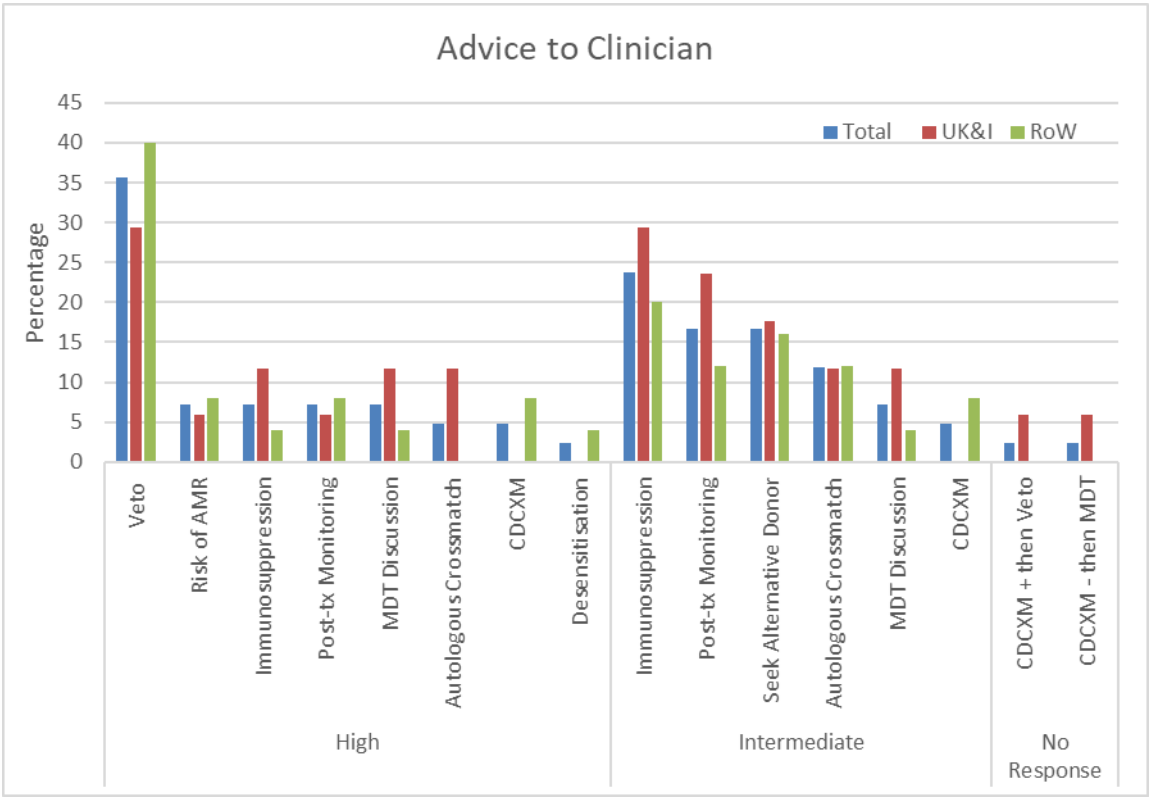



| Risk Categorisation | Reason | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % |
| High | CII DSA (High MFI, Current Date) | 20 | **48** | 8 | **47** | 12 | **48** |
| | FCXM Positive | 19 | **45** | 9 | **53** | 10 | **40** |
| | Repeat Mismatch | 8 | **19** | 3 | **18** | 5 | **20** |
| Intermediate | CII DSA (High MFI, Current Date) | 15 | **36** | 7 | **41** | 8 | **32** |
| | FCXM Positive | 17 | **40** | 7 | **41** | 10 | **40** |
| | Repeat Mismatch | 2 | **5** | 1 | **6** | 1 | **4** |
| | CDCXM required | 3 | **7** | 2 | **12** | 1 | **4** |
| | Expression Levels of Cw and DP | 2 | **5** | 1 | **6** | 1 | **4** |
| No Response | CII DSA (High MFI, Current Date) | 1 | **2** | 1 | **6** | 0 | **0** |
| | FCXM Positive | 1 | **2** | 1 | **6** | 0 | **0** |
| | CDCXM required | 1 | **2** | 1 | **6** | 0 | **0** |



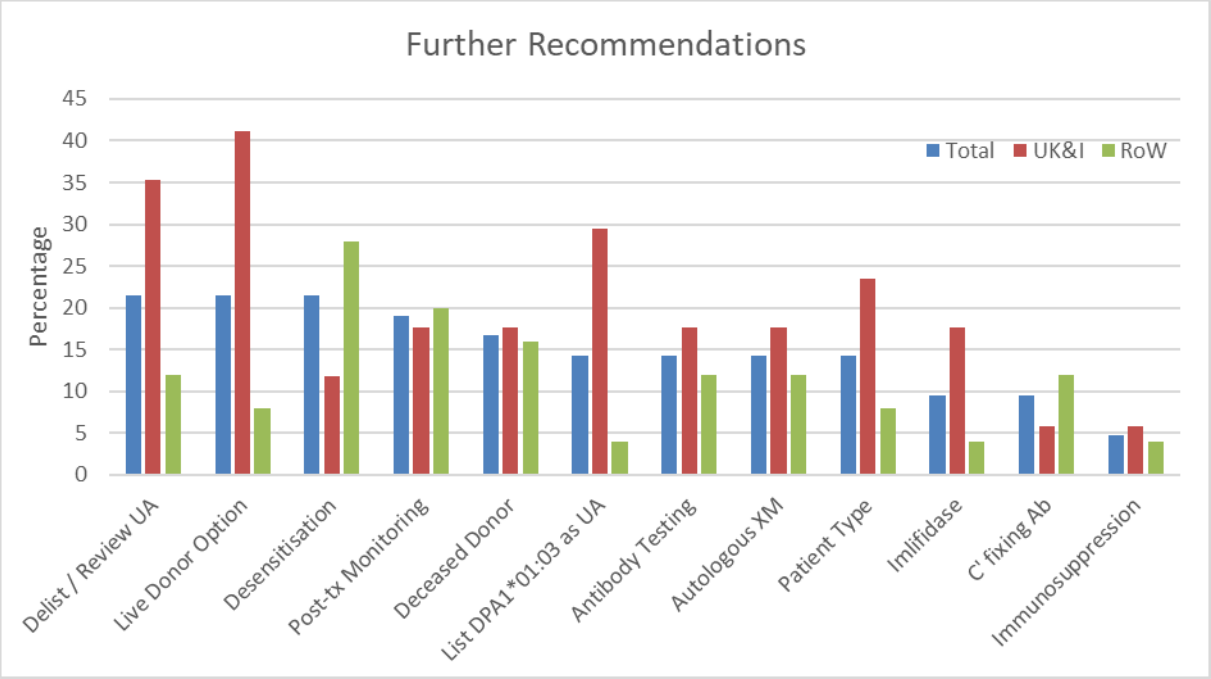
**Q2.5) – What advice would you provide to a Clinician?**

| Risk | Clinical Advice | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count | % |
| High | Veto / Seek Alternative Donor | 15 | **36** | 5 | **29** | 10 | **40** |
| | Risk of Antibody Mediated Rejection | 3 | **7** | 1 | **6** | 2 | **8** |
| | Augmented Immunosuppression | 3 | **7** | 2 | **12** | 1 | **4** |
| | Post-transplant Monitoring | 3 | **7** | 1 | **6** | 2 | **8** |
| | MDT Discussion | 3 | **7** | 2 | **12** | 1 | **4** |
| | Autologous Crossmatch | 2 | **5** | 2 | **12** | 0 | **0** |
| | CDCXM | 2 | **5** | 0 | **0** | 2 | **8** |
| | Desensitisation | 1 | **2** | 0 | **0** | 1 | **4** |
| Intermediate | Augmented Immunosuppression | 10 | **24** | 5 | **29** | 5 | **20** |
| | Post-transplant Monitoring | 7 | **17** | 4 | **24** | 3 | **12** |
| | Seek Alternative Donor | 7 | **17** | 3 | **18** | 4 | **16** |
| | Autologous Crossmatch | 5 | **12** | 2 | **12** | 3 | **12** |
| | MDT Discussion | 3 | **7** | 2 | **12** | 1 | **4** |
| | CDCXM | 2 | **5** | 0 | **0** | 2 | **8** |
| No Response | If CDCXM + then Veto | 1 | **2** | 1 | **6** | 0 | **0** |
| | If CDCXM - then MDT Discussion | 1 | **2** | 1 | **6** | 0 | **0** |



**Q2.6) – Would you make any further recommendations?**

| Recommendation | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| **Delist / Review UA** | 9 | **21** | 6 | **35** | 3 | **12** |
| **Live Donor Option** | 9 | **21** | 7 | **41** | 2 | **8** |
| **Desensitisation** | 9 | **21** | 2 | **12** | 7 | **28** |
| **Increased Post-transplant Monitoring** | 8 | **19** | 3 | **18** | 5 | **20** |
| **Wait for Alternative Deceased Donor** | 7 | **17** | 3 | **18** | 4 | **16** |
| **List DPA1*01:03 as UA** | 6 | **14** | 5 | **29** | 1 | **4** |
| **Further Antibody Testing** | 6 | **14** | 3 | **18** | 3 | **12** |
| **Autologous XM** | 6 | **14** | 3 | **18** | 3 | **12** |
| **High Resolution Patient Type** | 6 | **14** | 4 | **24** | 2 | **8** |
| **Treat with Imlifidase** | 4 | **10** | 3 | **18** | 1 | **4** |
| **Determine C' fixing Antibodies** | 4 | **10** | 1 | **6** | 3 | **12** |
| **Offer Enhanced Immunosuppression** | 2 | **5** | 1 | **6** | 1 | **4** |




The patient received a second deceased donor offer in March 2023. Details of the donor are shown in Table 5.

**Table 5: Details of Deceased Donor Offer 2**

| | |
|---|---|
| Donor Type | DCD |
| Donor HLA Type | A*24:02, A*30; B*08, B*40:02; C*07, C*-; DRB1*16, DRB1*03:01; DQB1*02, DQB1*05; DQA1*01, DQA1*05; DPB1*01:01, DPB1*03:01; DPA1*01:03, DPA1*02 |
| Mismatch Grade | 211 |
| Donor Age | 05/12/1983 |
| Donor Gender | Female |

A summary of potential donor directed antibodies are provided in Table 6 and results from a flow cytometry crossmatch between the patient and Donor 2 are provided in Table 7.

**Table 6: Details of Donor Directed Antibodies from the LABScreen SAB Class I and Class II Kits Across Multiple Sample Dates**

| One Lambda SAB | | | Sample Date | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Bead ID | Allele Spec | Spec | 08/03/23 | 21/12/22 | 15/07/22 | 01/04/22 | 13/01/22 | 03/12/21 | 20/08/21 | 03/03/21 |
| 11 | A*24:02 | A24 | 195 | 0 | 197 | 0 | 73 | 315 | 46 | 406 |
| 12 | A*24:03 | A24 | 315 | 0 | 424 | 0 | 109 | 0 | 103 | 670 |
| 19 | A*30:02 | A30 | 180 | 69 | 418 | 0 | 170 | 1159 | 56 | 423 |
| 18 | A*30:01 | A30 | 236 | 10 | 388 | 0 | 179 | 394 | 54 | 396 |
| 99 | B*40:06 | B61 | 3155 | 1910 | 6871 | 4014 | 2897 | 7931 | 1476 | 4611 |
| 54 | B*40:02 | B61 | 2079 | 1155 | 4705 | 2221 | 1751 | 3876 | 1037 | 3482 |
| 31 | DRB1*16:02 | DR16 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 225 |
| 30 | DRB1*16:01 | DR16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 38 | DRB5*02:02 | DR51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 | DRB5*01:01 | DR51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | DPA1*01:05, DPB1*03:01 | DP3 | 7530 | 7868 | 8070 | 6192 | 7347 | 8907 | 6837 | 2480 |
| 71 | DPA1*01:03, DPB1*03:01 | DP3 | 8602 | 8537 | 7101 | 7292 | 7203 | 8599 | 5570 | 8517 |
| 73 | DPA1*02:01, DPB1*03:01 | DP3 | 0 | 0 | 0 | 18 | 150 | 129 | 62 | 170 |
| 74 | DPA1*01:03, DPB1*04:01 | DP4 | 8866 | 7530 | 8171 | 7069 | 7070 | 8919 | 6215 | 8754 |
| 75 | DPA1*01:03, DPB1*04:02 | DP4 | 8556 | 7502 | 8446 | 8500 | 7444 | 8258 | 6348 | 8691 |
| 67 | DPA1*01:03, DPB1*01:01 | DP1 | 8592 | 9104 | 8299 | 7027 | 7201 | 7847 | 6141 | 8338 |
| 81 | DPA1*01:03, DPB1*11:01 | DP11 | 9405 | 8840 | 9152 | 8493 | 8415 | 7659 | 7192 | 8434 |
| 92 | DPA1*01:03, DPB1*19:01 | DP19 | 9807 | 8147 | 8704 | 7777 | 6825 | 9541 | 7492 | 8501 |
| 94 | DPA1*01:03, DPB1*23:01 | DP23 | 8597 | 9102 | 8898 | 9551 | 8991 | 7840 | 7838 | 8690 |
| 82 | DPA1*01:03, DPB1*28:01 | DP28 | 8784 | 7575 | 7771 | 7499 | 7991 | 8647 | 7438 | 8831 |
| 69 | DPA1*01:03, DPB1*02:01 | DP28 | 9892 | 8149 | 9943 | 8602 | 7409 | 8553 | 7582 | 9497 |
| 78 | DPA1*01:03, DPB1*06:01 | DP6 | 9250 | 7856 | 8438 | 9159 | 8492 | 6779 | 7550 | 9747 |

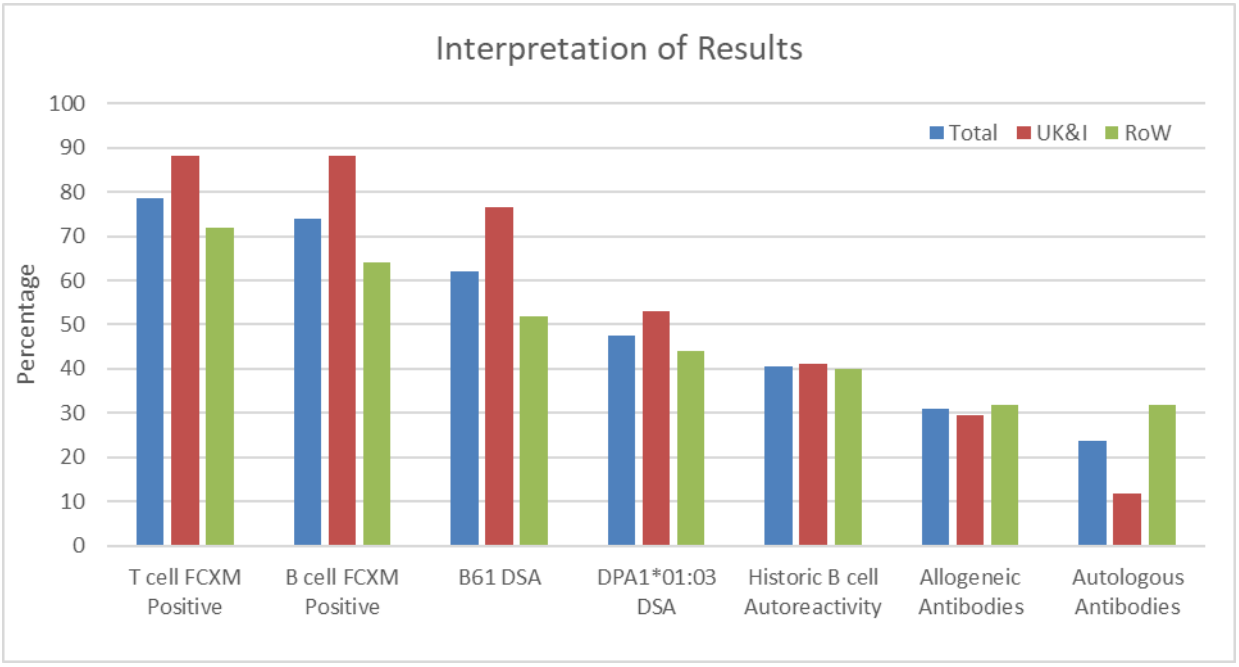
**Table 7: Results of Flow Cytometry Crossmatch for Deceased Donor Offer 2**

| FCXM Results | Allogeneic Results | | | | Autologous Results | | | |
|---|---|---|---|---|---|---|---|---|
| | T-Cell | LCS* | B-Cell | LCS* | T-Cell | LCS* | B-Cell | LCS* |
| 03/12/2021 | **POS** | 65 | **POS** | 99 | **NEG** | 6 | **POS** | 75 |
| 15/07/2022 | **POS** | 53 | **POS** | 89 | **NEG** | 1 | **POS** | 80 |
| 08/03/2023 | **POS** | 54 | **POS** | 62 | **NEG** | 4 | **NEG** | 39 |

**A Linear Channel Shift (LCS) of ≥40 is considered positive*

**Q3.1) – How would you interpret these results?**

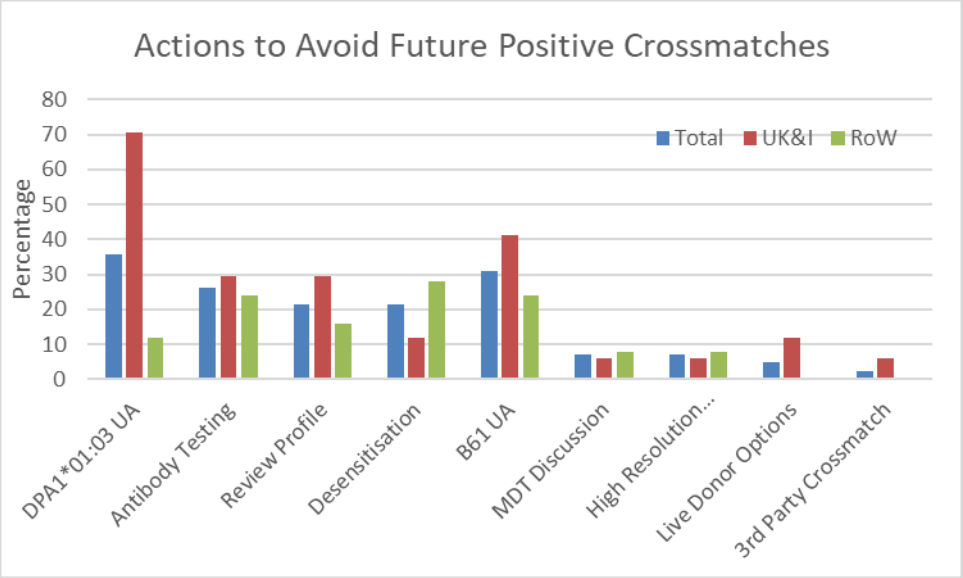
| Interpretation | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| **T cell FCXM Positive** | 33 | **79** | 15 | **88** | 18 | **72** |
| **B cell FCXM Positive** | 31 | **74** | 15 | **88** | 16 | **64** |
| **B61 DSA** | 26 | **62** | 13 | **76** | 13 | **52** |
| **DPA1*01:03 DSA** | 20 | **48** | 9 | **53** | 11 | **44** |
| **Historic B cell Autoreactivity** | 17 | **40** | 7 | **41** | 10 | **40** |
| **Allogeneic Antibodies** | 13 | **31** | 5 | **29** | 8 | **32** |
| **Autologous Antibodies** | 10 | **24** | 2 | **12** | 8 | **32** |




This offer was also declined by the clinical team.

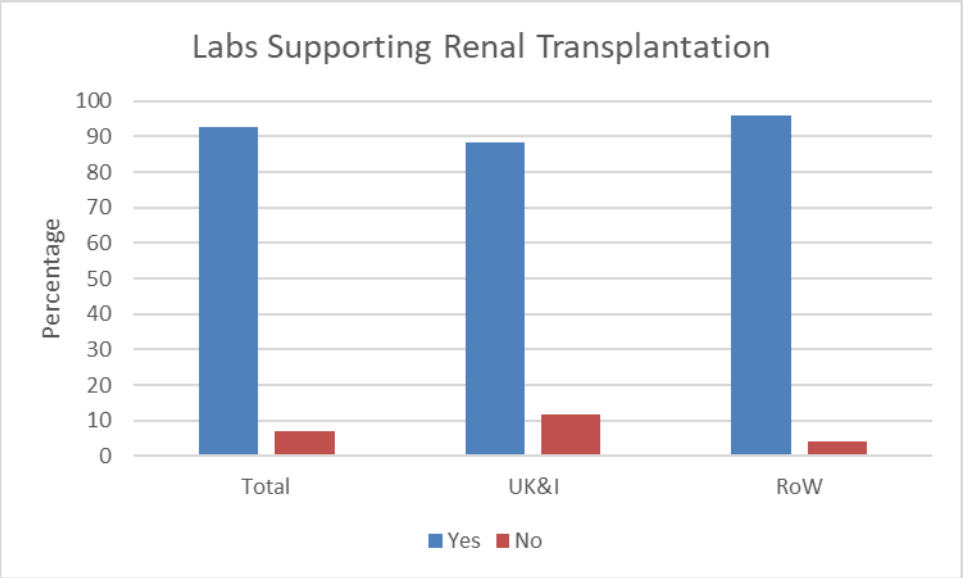
**Q3.2) – What action, if any, would you take to avoid further positive crossmatches?**

| Action | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| List DPA1*01:03 as UA (Surrogate listing of DPB1) | 15 | **36** | 12 | **71** | 3 | **12** |
| Further Antibody Testing/Epitope Analysis | 11 | **26** | 5 | **29** | 6 | **24** |
| Review Antibody Profile / Delist | 9 | **21** | 5 | **29** | 4 | **16** |
| Desensitisation | 9 | **21** | 2 | **12** | 7 | **28** |
| List B61 as UA | 13 | **31** | 7 | **41** | 6 | **24** |
| MDT Discussion | 3 | **7** | 1 | **6** | 2 | **8** |
| Patient High Resolution Typing | 3 | **7** | 1 | **6** | 2 | **8** |
| Consider Live Donor Options | 2 | **5** | 2 | **12** | 0 | **0** |
| 3rd Party Crossmatch | 1 | **2** | 1 | **6** | 0 | **0** |




**Q4) – Does your laboratory support testing for kidney transplantation?**

| Response | Total (n=42) | | UK&I (n=17) | | RoW (n=25) | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| Yes | 39 | **93** | 15 | **88** | 24 | **96** |
| No | 3 | **7** | 2 | **12** | 1 | **4** |




**Q5) – Do you have any further comments on this case?**

- This patient could potentially be a suitable candidate for Imlifidase treatment to increase their chances of being transplanted.
- Results provided on only 3 samples and 20/08/21 sample was inconsistent – would have repeated this sample and confirm UAGs with further sample. Cw7 self reactivity? - Perform SABs with a second SABs kit to confirm UAGs.
- It would be helpful to see the CDC XM result. Matchability score/ patient tier is not provided.
- Organ type of previous transplant. Need to know when first transplant was deemed to have failed and whether transplant nephrectomy was performed and/or date of cessation of immunosuppression, if applicable.
- It would be helpful to have more information on the patient such as medication (whether the patient is currently on any immunosuppressants or any other medication that would impact on the antibody level or FCXM results).
- More data required around high resolution typing for recipient to aid antibody analysis.
- We would have performed an autologous crossmatch result for the first kidney transplant to aid interpretation.
- The middle antibody result dated 20/08/21 seems lower than the other two results and would question the results obtained and would repeat to confirm.
- Use of further testing kits, extended panels and surrogate crossmatching maybe informative and help avoid positive crossmatches.
- Based on the results of table 1, HLA-B61 would have been listed as unacceptable and the offer from donor 2 would never have been received.
- Review the results of sample dated 20/08/21; results are significantly reduced compared to the other two samples (particularly for the Class I).
- At this moment our laboratory does not offer yet for HLA-DP typing. This case study had helped us regarding the importance of performing HLA-DP and check the DSA against the HLA-DP locus.
- We are a little bit surprise of the FCXM result because in our experience DSA DPA* never give positive XM.

- Desensitisation treatment can help to reduce Antibody level. Recommend follow up Luminex test and regularly review antibody assignment (or surrogate flow XM for Unacceptable Antigen assignment from time to time). Donors' ABO results need to be provided.
- Patient may get to paired kidney program.
- In view of presence of multiple antibodies, we would recommend to do a physical crossmatch prior to transplant instead of depending solely on virtual crossmatch. Finding alternative donor for this highly sensitised patient for example registering into paired kidney exchange scheme.
- We have just started doing kidney transplantation. The scenario is quite challenging for us at present since we are novice. But it is very helpful and brainteasing.

***Comments and suggested responses from the UK H&I experts providing this scenario****

**Question 1**

UK NEQAS for H&I cannot comment on the validity of unacceptable antigen definition strategies but we note some variability between individual responses. Laboratories should have robust processes to align testing to expected crossmatch results or clinical outcome. We would encourage all laboratories to complete regular clinical audits to determine if their definition of unacceptable antigens remains relevant.

**Question 2**

We would not consider it appropriate for the offer from Donor 1 to be assessed by virtual crossmatch (complete omission of laboratory testing pre-transplant). This is due to the presence of potential donor directed antibodies to DPA1*01:03 and DPB1*03:01 at an MFI level that could be clinically relevant. DPA1*01:03 is also a previous mismatch from the patient's previous graft.

UK NEQAS for H&I would state this transplant is an Intermediate level risk (https://bts.org.uk/wp-content/uploads/2016/09/06_BTS_BSHI_Antibodies-1.pdf). We have made this decision because the patient has a current and historic B cell flow cytometry crossmatch positive result in the presence of Class II donor specific antibodies.

We could advice performing an autologous crossmatch to determine if the reaction seen in the allogeneic crossmatch is due to allogeneic or autologous antibodies. High resolution typing of the patient would also assist in antibody definition as the patient has a potential allele specific Cw7 antibody. It would also be beneficial to test for antibodies using other methods such as Immucor Single Antigen Bead kits.

**Question 3**

The flow cytometry crossmatch against Donor 2 is T cell positive probably due to B61 donor directed antibody. The B cell flow cytometry crossmatch is positive probably due to DPA1*01:03 donor directed antibody. An autologous B cell crossmatch is historically positive but current negative which suggests the patient has autoantibodies in addition to donor directed antibodies.

In terms of further actions to avoid future positive crossmatches we would consider performing 3rd party crossmatching to inform the significance of the DPA antibody detected. We would consider listing of DPA1*01:03 via surrogate listing of the most common associated DPB antigens e.g. all DPB types that are in linkage with DPA1*01:03 such as DPB1*04:02 and DPB1*03:01 would be listed as unacceptable antigens to prevent future DPA incompatible offers.

We would also recommend liaising with the clinical team to discuss any live donor options, acceptable risk for the patient and whether the patient could tolerate desensitisation treatment. As the patient is highly sensitised it would be prudent to regularly review the patient's antibody profile and consider delisting antibodies to increase the likelihood of a transplant offer, especially if the patient is suffering venous access issues.

***Please note:***

**These comments have been have been compiled by subject matter experts from the NEQAS Steering Committee in accordance with current guidelines. We accept that guidelines are not always explicit for every situation and therefore the responses may be aligned with the clinical practices of an individual transplant centre and may not be directly applicable across all settings. NEQAS are not necessarily endorsing these responses as the only correct action, just one possible view which, we acknowledge, may be biased towards UK practice.**