**Question 50**

**The following phenotypes have been derived from the patient's family in order to determine the best candidate for a kidney donor**

**Family Member ABO HLA**

**Father A A3 A28 B18 B37**

**Mother B A2 A11 B7 B40**

**Patient B A3 A11 B7 B37**

**Sibling 1 AB A3 A11 B7 B37**

**Sibling 2 B A2 A3 B18 B40**

**Sibling 3 B A3 A11 B7 B37**

**Sibling 4 A A11 A28 B7 B18**

**On the basis of the information given, the best donor for the patient would be:**

**Question 70**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Mother** | **Anti-A** | **Anti-B** | **Anti-D** | **A1 cells** | **B cells** |
| 0 | 0 | 0 | 3+ | 3+ |
| **Antibody Screen** | | Screen positive, anti-D identified / Titer: 64 | | |
| **Hgb:** | | 12.8 g/dl | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Baby** | **Anti-A** | **Anti-B** | **Anti-D** |
| 0 | 0 | 1+ |
| **DAT:** | 2+ | |
| **Hgb** | 10.2 g/dl | |

**Case Study 1 (questions 73-76)**

**ABO/Rh Type**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Forward** | | | **Reverse** | | |
| **Anti-A** | **Anti-B** | **Anti-D** | **A1 cells** | **B cells** | **Interpretation** |
| 0 | 0 | 4+ | 4+ | 4+ | O Positive |

**Antibody Detection Test**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Rh | | | | | | MNS | | | | Lutehran | | P1 | Lewis | | Kell | | Duffy | | Kidd | | Gel |
|  | D | C | E | c | e | f | M | N | S | s | Lua | Lub | P1 | Lea | Leb | K | k | Fya | Fyb | Jka | Jkb | IAT |
| 1 | + | + | 0 | 0 | + | 0 | + | + | + | + | 0 | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 1+ |
| 2 | 0 | 0 | 0 | + | + | + | + | 0 | + | 0 | 0 | + | +w | 0 | + | + | 0 | + | + | + | 0 | 1+ |
| 3 | 0 | 0 | + | + | 0 | 0 | 0 | + | 0 | + | 0 | + | +s | 0 | + | + | + | + | 0 | 0 | + | 1+ |

**Antibody Identification Panel**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | | | |  | |  | |  | |  | |  | | | | **Serum**  **Reaction** | | |  |
|  | **D** | **C** | **E** | **c** | **e** | **K** | **k** | **Fya** | **Fyb** | **Jka** | **Jkb** | **Lea** | **Leb** | **M** | **N** | **S** | **s** | **IS** | **37** | **AHG** | **cc** |
| 1 | + | + | 0 | 0 | + | 0 | + | + | + | + | + | 0 | + | + | 0 | + | + |  | 0 | 2+ |  |
| 2 | + | 0 | + | + | 0 | 0 | + | + | 0 | 0 | + | 0 | + | 0 | + | 0 | + |  | 0 | 2+ |  |
| 3 | + | + | 0 | + | + | 0 | + | + | + | 0 | + | + | 0 | + | + | + | 0 |  | 0 | 2+ |  |
| 4 | 0 | 0 | + | + | + | 0 | + | 0 | + | + | 0 | 0 | + | + | + | + | + |  | 0 | **--** | 2+ |
| 5 | 0 | 0 | 0 | + | + | 0 | + | 0 | + | + | + | 0 | + | + | 0 | + | + |  | 0 | **--** | 2+ |
| 6 | 0 | 0 | + | + | + | + | + | + | 0 | + | + | 0 | + | + | + | + | 0 |  | 0 | 2+ |  |
| 7 | 0 | 0 | 0 | + | + | + | 0 | 0 | + | + | + | + | 0 | 0 | + | 0 | + |  | 0 | **--** | 2+ |
| 8 | 0 | 0 | 0 | + | + | 0 | + | 0 | + | + | 0 | 0 | + | + | + | + | 0 |  | 0 | **--** | 2+ |
| 9 | 0 | + | 0 | + | + | 0 | + | 0 | + | + | + | + | 0 | 0 | + | 0 | + |  | 0 | 2+ |  |
| 10 | + | 0 | + | + | + | + | + | 0 | 0 | + | + | 0 | + | + | 0 | 0 | 0 |  | 0 | **--** | 2+ |
| 11 | + | + | + | + | + | 0 | + | + | + | 0 | + | + | 0 | + | + | + | + |  | 0 | 2+ |  |
| AC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 | **--** | 2+ |

**Question 77**

|  |  |  |  |
| --- | --- | --- | --- |
| **Anti-A** | **Anti-B** | **Anti-D** | **Rh Control** |
| 2+ | 4+ | 3+ | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A1**  **Cells** | **B**  **Cells** |  | **Screening**  **Cells**  **I II III Auto** | **Compatibility Testing**  **Donor 1 Donor 2 Donor 3**  **(AB+) (AB+) (AB+)** |
| 1+ | 0 | **IS**  **37⁰C**  **AHG** | 0 0 0 0  0 0 0 0  0 0 0 0 | 1+ 1+ 0  0 0 0  0 0 0 |

**Question 78**

|  |  |  |  |
| --- | --- | --- | --- |
| **Anti-A** | **Anti-B** | **A1 Cell** | **B Cell** |
| **4+** | **0** | **0** | **0** |

**Case Study 2 (questions 93-98, p1 of 3)**

**Lab Results**

|  |  |
| --- | --- |
| Hemoglobin 5.5g/dl | ALT 20 IU/L |
| Hematocrit 17% | AST 30 IU/L |
| WBC 9,000/µL | Alkaline phosphatase 90 |
| Platelet count 278,000/µL | LDH 3,700 IU/L |
| Spherocytes were noted on the peripheral smear  as well as polychromasia | Haptoglobin < 5 mg/dl |
| Bilirubin 6.5 mg/dl,  5.5 mg/dl (indirect) | Creatinine 2.5 mg/dl |

**Type and Screen and DAT Results**

**ABO/Rh Type**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Forward** | | | **Reverse** | | |
| **Anti-A** | **Anti-B** | **Anti-D** | **A1 cells** | **B cells** | **Interpretation** |
| 4+ | 0 | 4+ | 0 | 4+ | A Positive |

**Antibody Detection Test**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Rh | | | | | | MNS | | | | Lutehran | | P1 | Lewis | | Kell | | Duffy | | Kidd | | Gel |
|  | D | C | E | c | e | f | M | N | S | s | Lua | Lub | P1 | Lea | Leb | K | k | Fya | Fyb | Jka | Jkb | IAT |
| 1 | + | + | 0 | 0 | + | 0 | + | + | + | + | 0 | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 0 |
| 2 | 0 | 0 | 0 | + | + | + | + | 0 | + | 0 | 0 | + | +w | 0 | + | + | 0 | + | + | + | 0 | 0 |
| 3 | 0 | 0 | + | + | 0 | 0 | 0 | + | 0 | + | 0 | + | +s | 0 | + | + | + | + | 0 | 0 | + | 0 |

**Case Study 2 (questions 93-98, p2 of 3)**

**Direct Antiglobulin Test**

|  |  |  |
| --- | --- | --- |
|  | **Immediate Spin** | **10’ RT incubation** |
| Polyspecific AHG | 4+ | 4+ |
| Anti-IgG | 4+ |  |
| Anti-C3 | 0 | 0 |
| Saline Control | 0 | 0 |

An elution was performed with the following results:

**Eluate Antibody Identification Panel**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Rh | | | | | | MNS | | | | Lutheran | | P1 | Lewis | | Kell | | Duffy | | Kidd | | Eluate |
|  | D | C | E | c | e | f | M | N | S | s | Lua | Lub | P1 | Lea | Leb | K | k | Fya | Fyb | Jka | Jkb | IAT |
| 1 | + | + | 0 | 0 | + | 0 | + | + | + | + | 0 | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 0√ |
| 2 | 0 | 0 | 0 | + | + | + | + | 0 | + | 0 | 0 | + | +w | 0 | + | + | 0 | + | + | + | 0 | 0√ |
| 3 | 0 | 0 | + | + | 0 | 0 | 0 | + | 0 | + | 0 | + | +s | 0 | + | + | + | + | 0 | 0 | + | 0√ |
| 4 | + | + | 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | 0 | 0 | 0 | + | + | + | + | + | 0√ |
| 5 | 0 | 0 | + | + | + | + | + | + | 0 | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 0 | + | 0√ |
| 6 | 0 | + | 0 | 0 | + | 0 | + | + | 0 | + | 0 | + | + | 0 | + | + | + | + | + | + | + | 0√ |
| 7 | + | 0 | + | + | 0 | 0 | + | 0 | + | 0 | 0 | + | + | 0 | + | 0 | + | 0 | + | + | 0 | 0√ |
| 8 | 0 | 0 | 0 | + | + | + | + | 0 | + | 0 | 0 | + | 0 | 0 | + | 0 | + | + | 0 | 0 | + | 0√ |
| 9 | + | + | 0 | + | + | + | + | + | 0 | + | 0 | + | + | + | 0 | 0 | + | 0 | + | + | 0 | 0√ |
| 10 | + | 0 | + | + | 0 | 0 | 0 | + | + | + | 0 | + | + | + | 0 | 0 | + | + | 0 | + | 0 | 0√ |
| 11 | + | 0 | 0 | + | + | + | + | + | 0 | + | 0 | + | + | + | 0 | 0 | + | 0 | 0 | + | + | 0√ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Last Wash**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Rh | | | | | | MNS | | | | Lutehran | | P1 | Lewis | | Kell | | Duffy | | Kidd | | Last  Wash |
|  | D | C | E | c | e | f | M | N | S | s | Lua | Lub | P1 | Lea | Leb | K | k | Fya | Fyb | Jka | Jkb | IAT |
| 1 | + | + | 0 | 0 | + | 0 | + | + | + | + | 0 | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 0√ |
| 2 | 0 | 0 | 0 | + | + | + | + | 0 | + | 0 | 0 | + | +w | 0 | + | + | 0 | + | + | + | 0 | 0√ |
| 3 | 0 | 0 | + | + | 0 | 0 | 0 | + | 0 | + | 0 | + | +s | 0 | + | + | + | + | 0 | 0 | + | 0√ |

**Case Study 2 (questions 93-98, p3 of 3)**

**Drug Dependent Antibody Testing**

|  |  |  |  |
| --- | --- | --- | --- |
|  | 30’RT | 60’ 37C | IAT |
| Patient Serum + Drug | 0 | 0 | 4+ |
| Patient Serum + Diluent | 0 | 0 | 0√ |
| Diluent + Drug | 0 | 0 | 0√ |
| Eluate + Drug | 0 | 0 | 4+ |
| Positive Control + Drug | 0 | 0 | 4+ |