**CASE STUDY 7**

**Initial Data:**

RY, a 36-year-old male, has been in an automobile accident. Two units of Red Blood Cells Leukocytes Reduced are ordered STAT. He denies having a previous transfusion. He has a number of previous hospital admissions with no record of clinically significant antibodies.

**ABO and RH Typing:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Forward (Cell) Typing** | | | **Reverse (Serum) Typing** | |
| **Anti-A** | **Anti-B** | **Anti-D** | **A1 Cells** | **B Cells** |
| **4+** | **0** | **3+** | **2+** | **4+** |

**QUESTION 4/5/6/7/8**

**Antibody Detection Test (Screen):**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RH** | | | | | | **MNS** | | | | **LU** | | **P** | **Lewis** | | **Kell** | | **Duffy** | | **Kidd** | | **PEG**  **(Test Tube)** | | |
|  | **D** | **C** | **E** | **c** | **e** | **f** | M | N | S | s | Lua | Lub | **P1** | Lea | Leb | K | k | Fya | Fyb | Jka | Jkb | **IS** | **37C** | **IAT** |
| **1** | + | + | 0 | 0 | + | 0 | + | + | + | + | 0 | + | + | + | 0 | + | + | + | 0 | 0 | + | **2+** | **NH** | **1+** |
| **2** | + | 0 | + | + | 0 | 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | + | + | + | + | 0 | **0** | **NH** | **0** |
| **3** | 0 | 0 | 0 | + | + | + | + | 0 | + | 0 | 0 | + | 0 | 0 | + | 0 | + | 0 | + | + | + | **3+** | **NH** | **1+** |

**QUESTION 7/8**

**Antibody Identification Panel 1 – PEG Technique:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RH** | | | | | **MN** | | | | **P** | **Lewis** | | **Kell** | | **Duffy** | | **Kidd** | | **PEG** | | |
|  | **D** | **C** | **E** | **c** | **e** | **M** | **N** | **S** | **s** | **P1** | **Lea** | **Leb** | **K** | **k** | **Fya** | **Fyb** | **Jka** | **Jkb** | **IS** | **37C** | **IAT** |
| **1** | + | + | 0 | 0 | + | + | + | + | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 2+ | NH | 1+ |
| **2** | 0 | 0 | 0 | 0 | + | + | 0 | + | 0 | +w | 0 | + | + | 0 | + | + | + | 0 | 3+ | NH | 1+ |
| **3** | 0 | 0 | + | + | 0 | 0 | + | 0 | + | +s | 0 | + | + | + | + | 0 | 0 | + | 0 | NH | 0√ |
| **4** | + | + | 0 | 0 | + | + | 0 | + | + | 0 | 0 | 0 | 0 | + | + | + | + | + | 3+ | NH | 1+ |
| **5** | 0 | 0 | + | + | + | + | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 0 | + | 2+ | NH | 1+ |
| **6** | 0 | + | 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | + | + | + | + | + | + | 0 | NH | 0√ |
| **7** | + | 0 | + | + | 0 | + | 0 | 0 | + | 0 | 0 | + | 0 | + | 0 | + | + | 0 | 3+ | NH | 1+ |
| **8** | 0 | 0 | 0 | + | + | + | 0 | + | 0 | 0 | 0 | + | 0 | + | + | 0 | 0 | + | 3+ | NH | 1+ |
| **9** | + | + | 0 | + | + | + | + | 0 | + | + | + | 0 | 0 | + | 0 | + | + | 0 | 2+ | NH | 1+ |
| **10** | + | 0 | + | + | 0 | 0 | + | + | + | + | + | 0 | 0 | + | + | 0 | + | 0 | 0 | NH | 0√ |
| **11** | + | 0 | 0 | + | + | 0 | + | 0 | 0 | +s | 0 | + | 0 | + | 0 | 0 | + | + | 0 | NH | 0√ |
| **AC** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 | NH | 0√ |

Laboratory Protocol:

The following antibodies can be initially ruled out **ONLY** if the patient’s serum is **NOT** reactive with the panel cells that have a double dose of the antigen:

**anti-C, -c, -E, -e, -M, -N, -S, -s, -Fya, -Fyb, -Jka, and -Jkb.**

Other antibodies listed on the antigen matrix can be initially ruled out if the patient’s serum is **NOT** reactive with the panel cells that are positive for the corresponding antigen. Keep in mind that weakly reactive antibodies may not be reactive with all antigen-positive cells.

If any of the following antibodies are **NOT** ruled out using the initial screen and panel results, additional cells must be tested to provide data for rule-out decisions: **anti-D, -C, -c, -E, -e, -M,**

**-N, -S, -s, -Lea, -Leb, -P1, -K, -k, -Fya, -Fyb, -Jka, and -Jkb.**

**QUESTION 10**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RH** | | | | | **MN** | | | | **P** | **Lewis** | | **Kell** | | **Duffy** | | **Kidd** | | **PEG** | | |
| Panel | **D** | **C** | **E** | **c** | **e** | **M** | **N** | **S** | **s** | **P1** | **Lea** | **Leb** | **K** | **k** | **Fya** | **Fyb** | **Jka** | **Jkb** | **IS** | **37C** | **IAT** |
| **1** | + | + | 0 | 0 | + | 0 | + | + | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | **0** | **NH** | **0√** |
| **2** | 0 | 0 | 0 | + | + | 0 | + | + | 0 | +w | 0 | + | + | 0 | + | + | + | 0 | **0** | **NH** | **0√** |
| **3** | 0 | 0 | + | + | 0 | 0 | + | 0 | + | +s | 0 | + | + | + | 0 | + | 0 | + | **0** | **NH** | **0√** |

**Antibody Identification Panel 2 – Prewarmed Saline IAT:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RH** | | | | | **MN** | | | | **P** | **Lewis** | | **Kell** | | **Duffy** | | **Kidd** | | **Prewarmed Saline IAT** |
| Panel | **D** | **C** | **E** | **c** | **e** | **M** | **N** | **S** | **s** | **P1** | **Lea** | **Leb** | **K** | **k** | **Fya** | **Fyb** | **Jka** | **Jkb** |
| **1** | + | + | 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 | + | +s | 0 | + | + | + | + | 0 | 0 | + | 0√ |
| **4** | + | + | 0 | 0 | + | + | 0 | + | + | 0 | 0 | 0 | 0 | + | + | + | + | + | 0√ |
| **5** | 0 | 0 | + | + | + | + | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | 0 | + | 0√ |
| **6** | 0 | + | 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | + | + | + | + | + | + | 0√ |
| **7** | + | 0 | + | + | 0 | + | 0 | 0 | + | 0 | 0 | + | 0 | + | 0 | + | + | 0 | 0√ |
| **8** | 0 | 0 | 0 | + | + | + | 0 | + | 0 | 0 | 0 | + | 0 | + | + | 0 | 0 | + | 0√ |
| **9** | + | + | 0 | + | + | + | + | 0 | + | + | + | 0 | 0 | + | 0 | + | + | 0 | 0√ |
| **10** | + | 0 | + | + | 0 | 0 | + | + | + | + | + | 0 | 0 | + | + | 0 | + | 0 | 0√ |
| **11** | + | 0 | 0 | + | + | 0 | + | 0 | 0 | +s | 0 | + | 0 | + | 0 | 0 | + | + | 0√ |
| **AC** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0√ |

**QUESTION 11**

|  |  |
| --- | --- |
| **Prewarmed Technique for Reverse Typing** | |
| **A1 Cells** | **B Cells** |
| 0 | 3+ |