



London Health
Sciences Centre



ST JOSEPH'S
HEALTH CARE
LONDON

Pathology and Laboratory Medicine

Those Patients that Make Themselves Known Case Studies

Laura Aseltine, MLT, BSc.

Transfusion Medicine

September 22, 2018

Case 1

THE CASE WITHIN THE CASE

Patient 1

- 32yo Female, currently pregnant at delivery, no transfusion history
- A Positive
- ABSC SCI 2+ SCII 3+
- Full antibody panel set up – Negative
- DAT negative
- ABSC repeat manual – SCI 0, SCII 0
- Concluded – no clinically significant antibodies

Patient 2

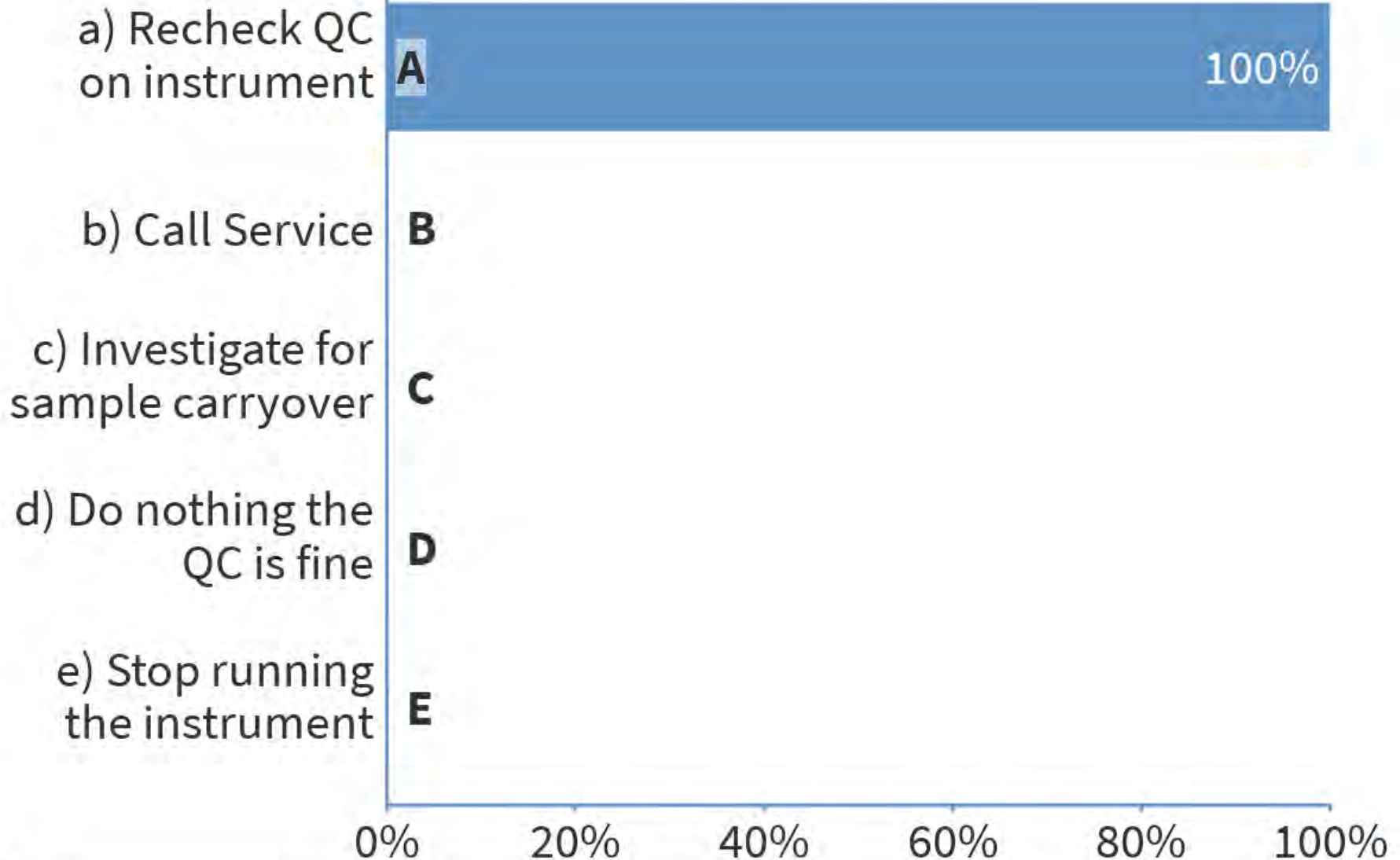
- Few days after Patient 1
- 6 yo Male, pediatric oncology patient, multi transfused
- B Positive
- Past ABSC's negative, Current SCI 3+, SCII 2+**
- Full antibody panel – Negative
- DAT – negative
- ABSC repeat manual – SCI 0, SCII 0
- Concluded – no clinically significant antibodies

Patient 3

- 3 days after Patient 2, week after Patient 1
- 66 yo Male, oncology patient, 2 units RBC transfused 4 days ago
- O Positive
- Previous ABSC negative, Current SCI 3+, SCII 3+
- Full antibody panel- Negative
- DAT- Negative
- ABSC repeat manual – SCI 0, SCII 0
- Concluded – No clinically significant antibodies
- ABSC repeat automation second machine – SCI 0, SCII 0



How should we proceed?



Start the presentation to see live content. Still no live content? Install the app or get help at PollEv.com/app

TM automation vs other lab areas

- ❑ Unlike other lab areas, recalibrating the assay isn't an option
- ❑ QC doesn't have an SD in TM, it either detects or it doesn't
- ❑ Antibodies are notoriously finicky – think the disappearing Anti-JK, antibodies that show dosage
- ❑ What do you do when two automated machines don't agree??
- ❑ SERVICE!!!!!!

Additional detective work

- ✓ Screening cells – Lot , how long on board?
- ✓ MTS cards – Lot, pictures
- ✓ Repeat all manual negatives on both machines
- ✓ Date and time
- ✓ Other antibody patients?



The Common Theme

- ❑ Same patient name
- ❑ Know Anti- D, E, C, and K
- ❑ Previous investigative work indicates titres of antibodies >2048

Instrumentation User Guide

“Testing of analyzer indicated that a sample with a high titered antibody (>1:1024) when tested may intermittently cause carryover in next pipetted sample tested”



Case 2

WHY SO HIGH?

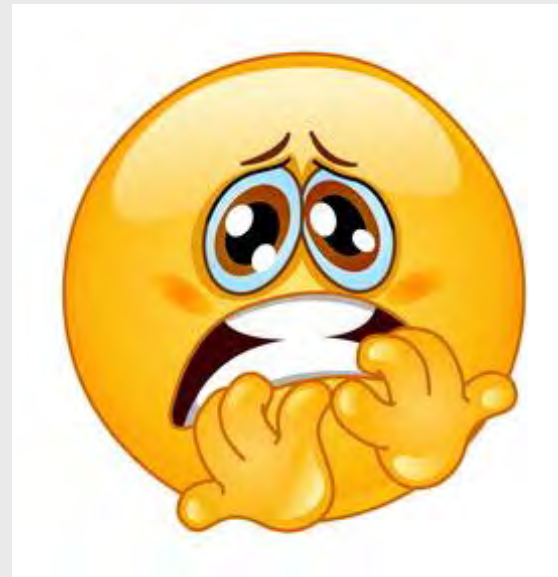
Case 2

- ❑ 65yo Male for Allogeneic related stem cell transplant
 - O Positive, ABSC negative, DAT negative
- ❑ Donor Sibling
 - O Negative, ABSC positive, DAT negative
 - Anti-D, -C, -K
 - Anti-D titre = 1:32

Just prior to transplant, recipient undergoes a exchange transfusion of 11 O Negative, C and K negative units to minimize risk of hemolysis at transplant

Day 3 Post Transplant

- ❑ O Rh Neg
- ❑ Transfusion Requirement – O Neg, C and K neg
- ❑ ABSC Positive – Anti-C
- ❑ DAT 1+, with IgG
- ❑ Eluate – Anti- D, -C
- ❑ Total Bilirubin - 40



Is this passive transfer of antibody or is the patient forming an immune antibody?

a) Passive antibody

b) Immune antibody

c) Both

d) How should I know?

3 weeks post Transplant

- O Negative (Only 5u O Neg, C and K neg given to date)
- Total Bili – 12
- ABSC – Positive, Anti-D, -C, -E, -K
- DAT – 1+ with IGG
- Eluate – not reported due to last wash (control)
Positive, but looks like Anti-D, -C
- Titre Anti-D 1:65,536, Anti-C 1:2048

Case 3

WHEN THINGS JUST DON'T ADD UP

Case 3

- ❑ 50yo Male, 1 year Post Allogeneic Stem Cell Transplant,
 - O Positive, in transition to donor group A Positive
 - ABSC Negative
 - Previous antibody history of WAA and Anti-E
 - Multi transfused RBC, PLT

- ❑ Admitted for GVHD and RSV pneumonia, intermittently febrile

- ❑ Orders for 1 unit RBC and IVIG (Hypogammaglobulinemia post transplant)

Transfusion Reaction – 1 unit RBC

Pre Vitals

Temp – 37
BP – 129/74
Pulse – 99
SpO2 – 96%
O2 rate – 3L NP

Post vitals

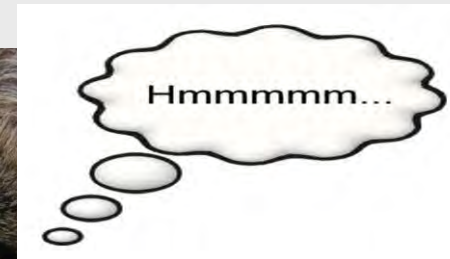
Temp – 38.2 ←
BP- 170/92 ←
Pulse - 131
SpO2 - 86% ←
O2 rate- 3L NP
Chills/Rigors ←
Dyspnea ←
Nausea ←
Vomiting ←

Given the symptoms, what is the likely cause of reaction?

- a) TACO
- b) TRALI
- c) Severe Allergic
- d) FNHTR
- e) A and D

Post IVIG

- ❑ Similar reaction next day due to IVIG
- ❑ Further investigation reveals fluid balance negative
- ❑ Chest X Ray, not consistent with TACO



Digging deeper

- ❑ TM physician requests IgA level to rule out possible hypertensive Anaphylactoid reaction
- ❑ Samples referred out to CBS for Anti-IgA testing
- ❑ Anti-IgA detected
- ❑ Patient and physician made aware

This patient requires ongoing IVIG and RBCs. What products should we provide this patient?

a) No need for special products

b) IGA deficient plasma products

c) Washed RBCs and PLTs

d) B and C

Take Away Message

- ❑ Listen to those Spidey senses! You are a highly trained medical professional for a reason.
- ❑ Use your critical thinking skills, and your knowledge of lab tests to speak up and make suggestions when you have them
- ❑ **Don't lose sight of the fact that you are providing care to a patient.**

QUESTIONS?

