ABO Discrepancies

Can you solve the mystery?

Please review the following 6 cases.
- Analyze where the discrepancy lies.
- Formulate a plan of action to resolve the discrepancy.
- See if your answers correctly resolve the case!

Case One:
Lewis Duffy

Lewis Duffy is a 47-year-old male with Hodgkin’s lymphoma.
- He presented in the outpatient oncology clinic today complaining of fatigue and shortness of breath.
- CBC results show a hemoglobin of 7.4 g/dL.

A properly labeled EDTA specimen is submitted for a 2 unit crossmatch.
- The results are as follows:
Where is the discrepancy?

- Anti-A not reacting.
- The weak reaction with the B cells.
- The A cells giving a negative reaction.
- There is no discrepancy.

Where is the discrepancy?

- Anti-A not reacting.
  - This is a possibility. This could be a weak sub-group of A.
- What testing could you perform to confirm this?
  - Testing with >A,B. A_x will react stronger with >A,B than with conventional >A anti-serum.
  - Secretor studies and adsorption/elution studies may also prove useful.

Where is the discrepancy?

- The weak reaction with the B cells.
  - If you agree that this person is a subgroup of A, then the reaction with B cells in the reverse grouping would fit the reaction pattern.
  - If you agree that the patient is Group O, then this reaction also fits.
  - This is not the cause of the discrepancy in Lewis Duffy.

Where is the discrepancy?

- The A cells giving a negative reaction.
  - A missing reaction in the reverse grouping would be consistent with the patient’s diagnosis of lymphoma.
  - Patients with lymphoma may have reduced levels of immunoglobulins.
- What testing would you do to confirm this?
  - Incubate the reverse grouping at room temperature or 4°C for 15 to 30 minutes.

Where is the discrepancy?

- Missing reactions in the forward grouping are the LEAST common form of ABO discrepancy.

  Subgroups of A such as A_x are a rare occurrence, so this is not the most probable cause of Lewis’ discrepancy.

Where is the discrepancy?

- Missing or weak reactions in the reverse grouping
  - This is the MOST common form of ABO discrepancy.