

TRANSFUSION SAFETY 101 – ARE YOU SMARTER THAN A BLOOD BANKER ?

1. Fatal blood transfusion reactions are most likely the result of:
 - a. Circulatory overload
 - b. ABO incompatible blood due to patient identification errors
 - c. Sepsis
 - d. Anaphylactic shock

2. To reduce the risk of bacterial growth, all blood products should be started no later than:
 - a. 30 minutes from time of issue from the Blood Bank
 - b. 2 hours from the time it arrived in the patient care area
 - c. There is no time limit as the refrigerated products can be safely stored in a food/ beverage or drug fridge
 - d. There is no time limit as platelets are stored at room temperature
 - e. There is no time limit if product comes in a cooler

3. The risk of ABO incompatible blood transfusion is greatest when:
 - a. Specimen tubes are labeled at the nurses station after the blood draw
 - b. Each label is checked with the patient's armband (patient name and hospital record number) at the bedside
 - c. Only one nurse checks the blood product before transfusion
 - d. Only one nurse signs off on the two person pretransfusion check

4. What clinical findings would result in a nurse suspecting the patient received ABO incompatible blood ?
 - a. Fever (Temperature increase of 1 degree C from baseline), chills
 - b. Pain in flank, abdomen and along infusion site, bleeding at infusion site
 - c. Urticaria (hives) but no other findings
 - d. a and b

5. Blood warmers should only be used:
 - a. If ordered by a physician
 - b. If the blood warmer is checked prior to use and audible alarms and visible thermometer are working
 - c. To a maximum heating temperature of 42 degrees C if no rapid infusion device is used (Maximum heating temperature with a rapid infusion device is 37 degrees C)
 - d. If the machine has had a quality control done by Medical Engineering in the past 12 months
 - e. All of the above

6. The minimum requirements to meet transfusion safety include:
 - a. Vital signs to be done before spiking each unit of product, 15 minutes after starting each unit and at the end of the transfusion of each unit
 - b. Transfusion reactions are immediately reported to the MD and Blood Transfusion Lab
 - c. If a transfusion reaction occurs, the transfusion is stopped immediately, the line kept open with normal saline and the product is returned to the Lab
 - d. Culturing all empty blood bags or other containers

- e. a, b and c
 - f. All of the above
7. Transfusion Related Acute Lung Injury (TRALI) could result in a severe and potentially fatal outcome. It must be ruled out whenever a patient shows signs of hypoxia during or after a transfusion. The clinical features of TRALI are:
- a. Onset of dyspnoea, decreased oxygen saturation (of more than 5% from baseline), hypotension (30mmHg or more decrease from baseline), fever, new infiltrates on chest X Ray within 6-12 hours of commencing transfusion
 - b. Fever, productive cough which develops 48 hours after completion of a transfusion
 - c. Dyspnoea, orthopnoea, cough and wheezing 24 hours after completion of transfusion
 - d. Distended neck veins
8. All of the following transfusion reactions must be reported stat to an MD and the Blood Transfusion Lab **EXCEPT**:
- a. Temperature increase of 1 degree Centigrade or more from baseline
 - b. Temperature of less than 1 degree with no other findings
 - c. Chills, rigors with or without a temperature increase
 - d. Shortness of breath
 - e. B and c
9. The patient's name and MRN must be checked:
- a. armband to specimen label before the blood draw
 - b. armband to specimen label before and after the blood draw
 - c. only if you don't know your patient very well
 - d. after the blood draw when you go to the computer to print labels
10. If red cells are ordered for a patient, the test performed by Blood Bank is called a
- a. group and screen
 - b. crossmatch (which includes a group and screen)
 - c. cold agglutinin test
 - d. direct antibody test (DAT)
11. Platelets, fresh plasma, red cells, autologous blood and cryo are transfused via a y type transfusion set with inline filter with a size between
- a 160- 270 microns
 - b. 40 –50 microns
 - c. platelets need only 40 –50 microns, rest need 160-270 microns
 - d. none of the above
12. Rigors could be a sign of which of the following:
- a. hemolysis
 - b. bacterial contamination of the blood product
 - c. febrile neutropenia- so therefore not reportable if patients have this history
 - d. a and b
 - e. all of the above
13. All lines used for transfusion must be primed with normal saline except for:
- a. albumin

- b. cryoprecipitate
- c. intravenous immunoglobulin
- d. none of the above

14. A patient is ordered 2 units of FFP- the sample you will need to send to Blood Bank will be for a:

- a. group and screen only
- b. crossmatch (which also includes group and screen)
- c. no sample is required for these products
- d. Coombs test

15. Antibody screen (which is part of the group and screen) is routinely performed to determine if:

- a. previous exposure by pregnancy resulted in red cell antibodies
- b. previous exposure by blood products resulted in red cell antibodies
- c. both a and b
- d. cold antibodies are evident
- e. all of the above

16. A temperature increase of 1 degree C or more from baseline is reportable in real time because it can be the earliest sign of:

- a. hemolysis
- b. new antibodies
- c. non hemolytic reaction ("febrile non hemolytic")
- d. all of the above

17. The maximum total transfusion time/infusion time for a unit of any platelets, packed red cells, autologous blood, and fresh plasma is:

- a. 4 hours following issue from Blood Bank
- b. 24 hours following arrival from Blood Bank
- c. 8 hours following issue from Blood Bank
- d. 6 hours following arrival from Blood Bank

18. For clotting factor continuous infusions, the maximum time for each infusion bag to run following mixing/reconstitution is:

- a. 24 hours
- b. 12 hours
- c. 10 hours
- d. 8 hours

19. The filter chamber on transfusion tubing is to be covered by the priming solution:

- a. completely
- b. half way leaving chamber partly exposed to air in the chamber but still avoiding air in the line
- c. 1/3 of the way
- d. optional depending on vascular access policy

20. It is important to start each unit slowly (approximately 50 cc/hour for the first 15 minutes or as ordered) because

- a. serious reactions often occur during this initial phase

- b. to test the integrity of the line
- c. to test the integrity of the filter
- d. all of the above

21. Why is saline contraindicated for priming lines for, and infusing IVIG ?

- a. Saline precipitates sugar molecules in IVIG
- b. Saline binds with proteins in IVIG
- c. Saline alters the IgA content of IVIG
- d. Saline becomes a vesicant if mixed with IVIG

22. The correct way to spike and unspike blood product bags is:

- a. To spike: quarter turn anticlockwise and repeat quarter turns until achieving blood flow
- b. To unspike: quarter turn clockwise and repeat quarter turns until spike is removed
- c. No need to use the quarter turn technique just push and pull – no risk of overspiking with blood bags
- d. Spike by repeated single quarter turns clockwise and unspike by anticlockwise single quarter turns - repeat quarter turns as required
- e. None of the above –each tubing spike is different

23. Please answer true or false

There is no need to stop a transfusion if the patient “just has a few hives”

A change in systolic blood pressure (SBP) of 20mm greater or less than the baseline SBP is reportable STAT to an MD and Blood Bank

A change in systolic pressure of 20mm greater or less than the baseline SBP is reportable STAT to an MD only

A patient has a fever during transfusion at 0200 but the nurse does not want to disturb the patient up to take blood for a transfusion reaction workup until 0700- the patient can still be transfused with the next prescribed blood product during the night

An oxygen saturation decrease of 5% or more is not reportable to Blood Bank unless it happened during the transfusion

Red wine coloured urine 12 hours after a red cell transfusion does not need to be reported to Blood Bank

I am very familiar with my patient’s care needs and history- therefore I am less likely to make an error

24. If a patient is Group O pos, he/she can receive which of the following groups for fresh frozen plasma

- a. AB
- b. B
- c. All ABO types
- d. O only

25. If a patient is A negative, he/she can receive which groups of red cells ?

- a. O negative
- b. O positive
- c. A negative
- d. a,b and c
- e. a and c

26. Trauma blood is prescribed if the patient with serious bleeding cannot wait for a crossmatch. The ABO/Rh group for trauma/uncrossmatched blood is always:

- a. O negative
- b. O negative or O positive *depending on supply and whether patient is male or female and if the female patient is of child bearing age or not
- c. AB negative
- d. AB positive

27. Rhesus immunoglobulin (RHIG) may be prescribed for :

- a. Rh negative women post partum and in some cases predelivery
- b. Rh negative patients who receive Rh positive platelets when Rh negative platelets are not available and this is approved by the MD
- c. All Rh negative patients receiving a bone marrow transplant
- d. certain types of thrombocytopenia
- e. a and b and d

28. Irradiated blood products (red cells, platelets) are prescribed for some patients to reduce the risk of

- a. hemolysis
- b. graft versus host disease
- c. sepsis
- d. allergic reactions

29. Some blood products can be washed to reduce the risk of

- a. hemolysis
- b. graft versus host disease
- c. sepsis
- d. allergic reactions

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September 2008

