TRANSFUSION MEDICINE TODAY: MISSION ACCOMPLISHED? *PLUS* NO bioactivity depletion

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Objectives and CE questions prepared by Gail S. Williams, PhD, MT(ASCP)SBB, CLS(NCA); Clinical Laboratory Sciences Program, College of Health and Human Sciences, Northern Illinois University, DeKalb, IL.

CE QUESTIONS

1. In 1900, who discovered the ABO blood-group system?

a. Karl Landsteiner
b. James Blundell
c. Jonathan Stamler
d. Timothy McMahon

2. The FDA approved the use of apheresis machines to collect double RBC units in

a. 2004.
b. 2005.
c. 2006.
d. 2007.

3. Currently, which of the following is the most common cause of transfusion related death?

a. ABO mismatched hemolytic-transfusion reaction
b. microbial contamination of blood unit causing infection
c. anaphylaxis
d. TRALI

4. In 2007, what was the second most common cause of transfusion related death?

a. Non-ABO hemolytic-transfusion reaction
b. Microbial contamination of blood unit causing infection
c. ABO mismatched hemolytic-transfusion reaction
d. TRALI

5. Which of the following have reduced transfusion-related deaths?

a. Use of bacterial-detection methods for platelets
b. Use of blood-diversion pouch for first several milliliters of donated blood
c. None of the above.
d. Both a and b.

6. What technologies could prevent misidentifications of transfusion recipients?

a. Wristbands with bar codes for patients.
b. Radio frequency identification.
c. Both a and b.
d. Neither a nor b.

7. Lowering transfusion related adverse events can be achieved by

a. lowering the RBC-transfusion trigger threshold to between 7 g/dL and 9 g/dL.
b. lowering the platelet-transfusion trigger threshold to 10,000/µL.
c. reducing prophylactic FFP use.
d. All of the above.

8. Today, most bone-marrow transplants of progenitor cells come from what source?

a. Traditional bone-marrow extraction from iliac bones or sternum.
b. Apheresis of progenitors from peripheral blood or from cord-blood collections
c. Culturing WBCs from expired blood units
d. Artificial blood

9. What is being proposed to reduce transmitting viruses and bacteria via transfusions?

a. Microfiltration
b. Pathogen inactivation
c. Nucleic-acid testing for every known pathogen
d. Pasteurization

10. Blood substitutes

a. include polyheme (hemoglobin-based polymerized oxygen carrier).
b. can cause organ toxicity.
c. have a 12-month shelf life.
d. All of the above.

11. In the future, diseases may be treated with tissues grown from cell lines to replace parts of damaged organs.

a. TRUE
b. FALSE

12. Since 1989, leukoreduction filters have significantly reduced what?

a. hemolytic transfusion reactions.
b. anaphylactic transfusion reactions.
c. febrile transfusion reactions.
d. TRALI.

13. Transfusion risk of infectious disease is greatest from

a. HBV.
b. HIV.
c. HCV.
d. HTLV.

14. What is/are the purpose(s) of RBC transfusion?

a. Increased oxygen carrying capacity
b. Vasodilation
c. Deliver oxygen effectively to tissues
d. All of the above.

15. Nitric oxide is in what form within RBCs?

a. S-nitrosothiol
b. NO2
c. nitric-oxide synthase
d. 2,3-DPG

16. What cells primarily make nitric oxide for the circulatory system?

a. RBCs
b. Endothelial cells
c. Cardiac-muscle cells
d. Neurons

17. What does nitric oxide affect in the circulatory system?

a. Relaxation of blood vessels
b. Blood-pressure homeostasis
c. Platelet aggregation
d. All of the above.

18. When does NO depletion begin to occur in banked blood?

a. After seven days
b. After 24 hours
c. Within minutes
d. After 14 days

19. What does the storage lesion of decreased NO mean to a transfused patient?

a. Oxygen is not delivered effectively to the tissues.
b. Nothing; the endothelium restores the NO to the RBCs immediately.
c. Decreased nervous system function
d. Increased risk of bacterial infection from the blood transfusion

20. The storage lesion of reduced NO can be fixed by restoring nitrosylation of banked blood before transfusion.

a. TRUE
b. FALSE

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