CONTINUING EDUCATION TEST

Methods of testing platelet count and function

OCTOBER 2020 *[This form may be photocopied. It is no longer valid for CEUs after April 30, 2022.)* Passing scores of 70 percent or higher are eligible for 1 contact hour of P.A.C.E. credit.

TEST QUESTIONS

Circles must be filled in, or test will not be graded. Shade circles like this: ● Not like this: ⊗

1. **Platelets develop from large_____ called megakaryocytes. Following fragmentation, more than 1,000 platelets per megakaryocyte are released.**
   - A. bone marrow cells
   - B. red blood cells
   - C. white blood cells
   - D. T cells

2. **Low platelet count, or thrombocytopenia, can lead to _____, while high platelet counts, or thrombocytosis, can lead to arterial or venous thrombosis.**
   - A. blood clotting issues
   - B. bleeding symptoms
   - C. dizziness
   - D. shortness of breath

3. **Several acquired and hereditary disorders can reduce the platelet count, including pregnancy, deficiencies of vitamin B12 or folic acid, leukemia, _____ , heparin-induced thrombocytopenia (HIT), and thrombotic thrombocytopenic purpura (TTP), among several others.**
   - A. multiple sclerosis
   - B. vasculitis
   - C. systemic lupus erythematosus
   - D. anemia

4. **Patients with bacterial or viral sepsis and the resulting disseminated intravascular coagulation (DIC) also show moderate to severely higher-than-normal platelet counts, with platelet consumption resulting from the coagulation activation process.**
   - A. True
   - B. False

5. **In patients with bacterial or viral sepsis, platelet transfusion is not usually required to prevent bleeding unless the platelet count is _____.**
   - A. <6,0000 per microliter
   - B. <10,000 per microliter
   - C. <15,000 per microliter
   - D. <20,000 per microliter

6. **If tissue injury happens, or if inflammatory processes disturb the endothelial layer, the extracellular matrix containing _____underlying the endothelial layer will be exposed to the blood flow.**
   - A. collagen
   - B. carbohydrates
   - C. plasma membrane
   - D. polysaccharide

7. **The last step in platelet activation is aggregation with the gpIIb/IIIa-fibrinogen complexes helping to cement interactions between the activated platelets within the growing plug.**
   - A. True
   - B. False

8. **Platelet microparticles or microvesicles shed from activated platelets and megakaryocytes serve to slow down coagulation.**
   - A. True
   - B. False

9. **Platelet agonists are linked to specific receptors, and when the agonist-receptor combination is _____due to a genetic disorder, or targeted by pharmacologic therapies, platelet activation is downregulated along with any linked downstream pathologic effects.**
   - A. aggravated
   - B. over stimulated
   - C. absent
   - D. damaged

10. **Platelet inhibition with one or more antiplatelet medications is required for patients at risk of arterial thrombosis when patients have acute coronary syndrome (ACS) peripheral artery disease (PAD), ____, when undergoing percutaneous coronary intervention (PCI), or angioplasty with stent, or _____ following initial occurrence.**
    - A. heart disease, stroke prevention
    - B. heart disease, aneurysm
    - C. aneurysm, stroke prevention
    - D. cancer, heart disease

11. **____variability affects metabolism of aspirin and clopidogrel, making the test necessary in certain situations.**
    - A. disease
    - B. symptom
    - C. genetic
    - D. dosage

12. **To assess suspected inherited platelet disorders, or to assess effectiveness of antiplatelet therapies, various laboratory methods help clinicians diagnose the underlying disorder and monitor therapies.**
    - A. True
    - B. False

13. **First line laboratory testing in the context of primary hemostasis testing and identification of potential inherited or acquired platelet disorders involves platelet count determination, commonly performed in a _____ measurement on an automated hematology analyzer.**
    - A. hemoglobin
    - B. coagulation
    - C. white blood cell
    - D. complete blood count (CBC)

14. **Although hematology studies provide rapid and precise information on platelet count and MPV, there is no information about platelet function, and accuracy may be decreased at _____ platelet levels.**
    - A. high
    - B. low
    - C. moderate
    - D. all of the above

15. **If vWF antigen levels are _____, factor VIII (FVIII) levels are often simultaneously _____ since vWF and FVIII are linked together in the plasma to enhance stability and half-life of both proteins.**
    - A. increased; increased
    - B. decreased; decreased
    - C. increased; decreased
    - D. decreased; increased

16. **Viscoelastic test (VET) platforms are not sufficiently sensitive to all functional _____ deficiencies, requiring use of additional tests for a complete diagnosis.**
    - A. plasma
    - B. white blood cell
    - C. red blood cell
    - D. platelet

17. **Light transmission aggregation (LTA) is the cornerstone and gold standard for platelet function investigation due to the _____ used and sensitivity to all inherited and acquired disorders.**
    - A. wide panel of agonists
    - B. variety of anti-clotting agents
    - C. pre-analytic variables
    - D. analytic variables

18. **Disadvantages of light transmission aggregation (LTA) include poor standardization, _____ and stringent requirements for sample processing and platelet count.**
    - A. use of whole blood
    - B. non-automated techniques
    - C. use of small sample volume
    - D. use of red and white blood cells

19. **In LTA, agonist added to the sample results in LT increase, and a normal result is obtained if LT reaches the _____ level set with the platelet poor plasma (PPP) control.**
    - A. 25 percent
    - B. 50 percent
    - C. 75 percent
    - D. 100 percent

20. **To assess potential granule deficiencies or problems with other internal structures, scanning electron microscopy (SEM) or transmission electron microscopy (TEM) enables highly sensitive analysis of internal issues, the equipment and expertise needed are widely available, and the procedures are simple and easy to perform.**
    - A. True
    - B. False

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