PathMD™: Board Review Letter

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Case #1 The diagram shown for this question illustrates initial platelet adhesion and aggregation. The substance highlighted by the red box best represents?

A. Von Willebrand's factor
B. GPIIb/IIIa
C. GPIb
D. Fibrinogen
E. Fibrin

Case #2 The diagram shown for this case represents a platelet control and the patient's platelets is tested for aggregation in the presence of low dose and high-dose ristocetin. In addition, electrophoresis showed decreased large molecular weight von Willebrand's multimers. Mixing the patient's plasma with random donor platelets resulted in the same platelet arrogation findings with high and low dose ristocetin. Based on this information, the best diagnosis is:

A. Bernard-Soulier syndrome
B. Glanzman's thromboblasthenia
C. Pseudo-von Willebrand's disease
D. von Willebrand's disease, type 2B
E. Cannot be determined with the given information

Question #1 A young patient is diagnosed with a pulmonary embolism, and is found to have a large DVT. No acquired risk factors for hypercoagability are found, and genetic etiologies are suspected. The patient is still in the ER and has not yet received anticoagulation. Which of the following tests can be performed to evaluate possible hypercoaguable states:

A. PT20210
B. Protein C and S
C. Factor V Leiden
D. A and C are correct
E. All of the above are correct

Answer: D. In the acute state of a thrombosis, only genetic based tests should be done. Plasma tests for "levels" are not helpful in the setting of an acute thrombus or anticoagulation because they will be affected. These include: protein C and S, antithrombin III, factor VIII. Genetic tests including Factor V Leiden and PT20210 (PCR based testing) can both be performed acutely or while on anticoagulation therapy.

Question #2 All of the following may result in a prolonged thrombin clotting time (TCT) EXCEPT:

A. Factor II deficiency
B. Heparin contamination
C. Dysfibrinogenemia
D. Hypofibrinogenemia
E. Increased fibrin degradation products

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Question #3 Of extracellular matrix constituents, which is the most important pro-thrombotic component?

A. Collagen
B. Proteoglycans
C. Fibronectin
D. Adhesive gylcoproteins
E. None of the above

Question #4 A 46 y/o woman is found to have a prolonged aPTT with a normal PT. A mixing study was performed, and the aPTT corrected into the high normal range. Clinically, the patient does not have any evidence of bleeding or bleeding tendencies. Further questioning reveals the patient has been noted to have a prolonged aPTT during a routine physical exam 5 years ago. He was referred to a hematologist at that time who told him he was fine and not to worry. Based on these findings, which of the following is the most likely etiology of the patients prolonged aPTT?

A. Factor VIII deficiency (mild hemophilia A)
B. Factor IX deficiency (hemophilia B)
C. Factor XII deficiency
D. Lupus anticoagulant
E. Factor V inhibitor

Question #5 An acquired inhibitor to factor X can be caused by which of the following?

A. Use of bovine thrombin
B. Amyloidosis
C. Severe Hemophilia A
D. Severe Hemophilia B
E. None of the above

Question #6 Which of the following has the greatest effect in inhibiting both factors V and VIII?

A. Anti-thrombin III
B. Thrombomodulin
C. Factor XIII
D. Thromboplastin
E. Tissue factor pathway inhibitor

Question #7 Heparin induced thrombocytopenia is caused by heparin interacting with:

A. Anticardiolipin antibodies
B. Platelet factor 4
C. GpIIb/IIIa
D. HLA receptors
E. None of the above

Question #8 All of the following are symptoms of type 1 von Willebrand's disease EXCEPT:

A. Easy bruising
B. Joint bleeding
C. Oral bleeding
D. Epistaxis

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