Continuing Education Questions

SUMMER 2011

1. What percentage of chronic myelogenous leukemia is *BCR/ABL1* positive?
   a. >90%
   b. 50%
   c. 30%
   d. 100%

2. The fusion gene, *BCR/ABL1*, causes
   a. Increased tyrosine kinase activity
   b. Decreased tyrosine kinase activity
   c. Interruption of tyrosine kinase activity

3. Imatinib, a drug used to treat CML, is a tyrosine kinase:
   a. activator
   b. progenitor
   c. inhibitor
   d. analogue

4. Common symptoms found in *BCR/ABL1*-negative myeloproliferative neoplasms include:
   a. Fatigue
   b. Splenomegaly
   c. Hemorrhagic or thrombotic episodes
   d. All of the above

5. In PV, the serum erythropoietin level is:
   a. Increased
   b. Decreased
   c. Normal

6. In PV, the *JAK2* mutation is present in what percentage of patients?
   a. 10%
   b. 30%
   c. 50%
   d. 95%

7. The diagnosis of essential thrombocythemia requires a sustained platelet count:
   a. >1,000 x 10^9/L
   b. >500 x 10^9/L
   c. >450 x 10^9/L
   d. >350 x 10^9/L

8. In essential thrombocythemia, the presence of the *JAK2* V617F mutation indicates that thrombocytosis is:
   a. Reactive
   b. Neoplastic

9. In the bone marrow of patients with primary myelofibrosis, there is proliferation and atypia of:
   a. Megakaryocytic precursors
   b. Erythroid precursors
   c. Granulocytic precursors
   d. Monocytoid precursors

10. In the WHO classification, the presence of the *JAK2* mutation is required for diagnosis of all the following myeloproliferative neoplasms *except:*
    a. Polycythemia vera
    b. Essential thrombocythemia
    c. Chronic myelocytic leukemia
    d. Primary myelofibrosis

11. Which of the following molecular mutations has *NOT* been identified in essential thrombocythemia?
    a. *JAK2* V617F
    b. *BCR/ABL1*
    c. *MPL*
    d. *TET2*

12. Which of the following statements is true regarding patients with essential thrombocythemia?
    a. Platelet function is most often normal.
    b. An underlying, systemic disease is often present.
    c. Thrombocytosis rarely exceeds $450x10^9$/L.
    d. Patients are often asymptomatic at diagnosis.

13. The 2008 WHO criteria for diagnosis of essential thrombocythemia include:
    a. Sustained platelet count ≥ $600\ x10^9$/L
    b. Absence of *JAK2* V617F mutation
    c. Megakaryocytic proliferation in the bone marrow
    d. Hemoglobin ≥ 17 g/dL

14. Which of the following findings would *exclude* a diagnosis of reactive thrombocytosis?
    a. Platelet count ≥ $450\ x10^9$/L
    b. Leukocytosis
    c. Megakaryocytic proliferation in the bone marrow
    d. Demonstration of *JAK2* V617F

15. Which is true of patients with essential thrombocythemia:
    a. Experience long asymptomatic intervals
    b. Avoid the use of aspirin
    c. Expect frequent hemorrhagic complications
    d. Expect frequent thrombotic complications

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3.	a	b	c	d	14.	a	b	c	d
4.	a	b	c	d	15.	a	b	c	d
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