Quiz Page — Advances in the Treatment of Chronic Myeloid Leukemia

1. Leukemia:
   a. is projected to be the fifth and sixth most common cause of cancer death in males and females, respectively for 2005.
   b. is a malignancy of hematopoietic (blood-forming) cells.
   c. can occur in acute types with a stormy onset and chronic types with a more gradual, insidious onset.
   d. all of the above

2. ALL:
   a. is acute lymphoid leukemia and involves overproduction of lymphoblasts.
   b. is more common in children.
   c. presents with fatigue, bruising, nose bleeds, fever, infections, and bone pain.
   d. all of the above

3. AML:
   a. is acute myeloid leukemia and involves overproduction of myeloblasts.
   b. is the most common type of adult leukemia.
   c. has an overall five-year survival rate of about 20%, with older patients having the poorest prognosis.
   d. all of the above

4. CLL:
   a. is chronic lymphocytic leukemia and involves overproduction of mature-appearing lymphocytes.
   b. occurs mostly in patients > 60 years of age.
   c. can present in an insidious manner with the only indication being an elevated lymphocyte count.
   d. all of the above

5. CML:
   a. is chronic myeloid leukemia.
   b. is most common in the age range of 45 to 55, however there is a trend toward increased case in younger adults.
   c. is associated with the molecular genetic defect known as the Philadelphia chromosme which contains an abnormal hybrid bcr-abl gene.
   d. all of the above

6. Pathological and cytogenetic features of CML include:
   a. abnormal tyrosine kinase activity.
   b. the presence of the Philadelphia chromosome abnormality primarily in stem cells of myeloid cell lineage.
   c. a markedly elevated WBC count with a striking increase in neutrophils.
   d. all of the above

7. The initial clinical presentation of CML:
   a. is characterized by an acute, stormy onset of symptoms.
   b. can be relatively asymptomatic with only a marginal increase in WBC count.
   c. always involves fatigue, weight loss, abdominal pain, and an enlarged spleen.
   d. all of the above

8. The vast majority of CML patients are initially diagnosed in the chronic phase, which can last for many years and is characterized by a relatively stable and predictable profile of signs and symptoms.
   a. true
   b. false

9. The accelerated phase of CML is often a prelude to blast crisis and involves worsening symptoms and more pronounced elevations in the WBC count and myeloblast fraction in the blood and bone marrow.
   a. true
   b. false

10. Imatinib:
    a. was approved in 2001 and is marketed under the brand name Gleevec.
    b. is primarily indicated for adults with chronic phase, Philadelphia chromosome-positive CML.
    c. inhibits the tyrosine kinase activity coded by the hybrid bcr-abl gene of the Philadelphia chromosme in leukemic cells.
    d. all of the above

11. A complete hematologic response to treatment is essentially a normalization of cell counts and a major cytogenetic response is either a complete or partial reduction in Philadelphia chromosome-positive leukemic cells.
    a. true
    b. false

12. Compared to interferon and Ara-C, imatinib treatment of chronic phase CML:
    a. increases the time to disease progression.
    b. produces greater complete hematologic response rates.
    c. produces greater major cytogenetic response rates.
    d. all of the above

13. Commonly reported adverse effects of imatinib include:
    a. fluid retention and edema.
    b. nausea, diarrhea, rash, fatigue, and headache.
    c. muscle cramps, musculoskeletal pain, and joint pain.
    d. all of the above

14. In respect to drug interactions with imatinib:
    a. CYP3A4 inhibitors, such as clarithromycin, can raise imatinib plasma levels.
    b. carbamazepine and dexamethasone can raise imatinib plasma levels.
    c. none of the above
    d. all of the above

15. Gleevec:
    a. therapy for adult chronic phase CML is one 400 mg tablet daily with a meal.
    b. therapy can cost thousands of dollars a year and requires prior authorization by pharmacy benefit managers.
    c. availability for patients without pharmacy benefit coverage may be possible by contacting the Gleevec Reimbursement Hotline.
    d. all of the above

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