1. The two most important prognostic indicators in neuroblastoma are:
   
a. Age of the patient and stage of disease
b. Stage of disease and histopathology
c. Sex of the patient and catecholamine levels in a 24-hour urine collection
d. Presence of cerebellar ataxia and stage of disease
e. N-myc copies and age of the patient
f. None of the above

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e. N-myc copies and age of the patient
f. None of the above
2. In which of the following tumors is long-term control most likely to be achieved with currently available treatments?

a. Stage IV neuroblastoma in a 3-year-old
b. Stage IV rhabdomyosarcoma in a 2-year-old
c. Stage IV Hodgkin’s disease, nodular sclerosing type, in a 15-year-old
d. Stage IV osteosarcoma
e. Acute lymphoblastic leukemia in a 17-year-old adolescent

3. Generalized lymphadenopathy is a common presenting sign in which of the following groups of childhood malignancies?

a. Neuroblastoma, acute lymphoblastic leukemia, rhabdomyosarcoma
b. Osteosarcoma, Ewing’s sarcoma, Wilms tumor
c. Acute lymphoblastic leukemia, neuroblastoma, non-Hodgkin lymphoma
d. Acute myeloid leukemia, neuroblastoma, hepatoblastoma
e. Acute leukemia, Wilms tumor, retinoblastoma
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e. Acute leukemia, Wilms tumor, retinoblastoma

4. A 4-year-old African-American boy is taking trimethoprim/sulfamethoxazole for acute sinusitis. Fatigue, dark urine, and pallor develop. The most likely diagnosis is:

a. Hereditary spherocytosis
b. Glucose-6-phosphate dehydrogenase deficiency
c. Hepatitis A
d. Autoimmune hemolytic anemia
5. Over a 3 day period, petechiae develop over the trunk and extremities of a previously healthy 5-year-old. The parents state that he has been bruising easily for the past week. He has been afebrile. A complete blood cell count reveals the following values: WBC 10,500/mm³ with 75% N and 20% L; Hgb 13 g/dL; MCV 87 fL; Plts 10,000/mm³. The most likely diagnosis is:

- a. Henoch-Schönlein purpura
- b. Idiopathic thrombocytopenic purpura (ITP)
- c. Meningococcemia
- d. Rocky Mountain spotted fever
- e. Acute lymphocytic leukemia

6. A 3-year-old girl was noted to have a Hgb of 9.8 g/dL when she presented to the clinic 3 months ago. The MCV was 68 fL, and the RDW 11%. She was placed on ferrous sulfate (5 mg of elemental iron/kg/day). On the return visit 8 weeks later, the reticulocyte count is 1.8% and the indices are unchanged. The peripheral smear is normal except for small hypochromic red blood cells. These data are consistent with:

- a. Thalassemia trait
- b. Sickle cell trait
- c. Sickle cell disease
- d. Folate deficiency
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a. Thalassemia trait  

b. Sickle cell trait  

c. Sickle cell disease  

d. Folate deficiency

7. Jaundice develops in a healthy caucasian 7-year-old girl. The physical examination reveals splenomegaly. A complete blood cell count reveals the following values: WBC 7,400/mm³, platelets 235,000/mm³, hemoglobin 9 g/dL; MCV 85 fl; reticulocyte count 6%. The most likely diagnosis is:

a. Acute lymphoblastic leukemia  

b. Pyruvate kinase deficiency  

c. Glucose-6-phosphate dehydrogenase deficiency  

d. Hereditary spherocytosis
8. Which of the following sets of labs is consistent with tumor lysis syndrome?

a. ↑ K, ↑ PO₄, ↑ Ca, ↑ uric acid
b. ↓ K, ↑ PO₄, ↓ Ca, ↑ uric acid
c. ↑ K, ↑ PO₄, ↓ Ca, ↓ uric acid
d. ↑ K, ↑ PO₄, ↓ Ca, ↑ uric acid
e. None of the above

9. A 4 y/o boy presents to your office with 3 day history of fever to 101-102, decreased oral intake and complaints of abdominal pain. Physical exam reveals scattered cervical adenopathy, a few bruises, and a palpable spleen tip. Which of the following is the least likely diagnosis?

a. Infectious mononucleosis
b. Immune thrombocytopenic purpura (ITP)
c. Strep throat
d. Acute lymphoblastic leukemia
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a. Infectious mononucleosis  
b. Immune thrombocytopenic purpura (ITP)  
c. Strep throat  
d. Acute lymphoblastic leukemia

10. On the above patient, labs reveal WBC 1,200/mm³ with 8% neutrophils, Hgb 7.9 g/dL with normal MCV, and platelets 76,000/mm³. Monospot is negative. The most likely diagnosis is:

a. Aplastic anemia  
b. ITP  
c. Infectious mononucleosis  
d. Acute lymphoblastic leukemia

d. Acute lymphoblastic leukemia
11. Hemihypertrophy and aniridia are associated with:

a. Neuroblastoma
b. Retinoblastoma
c. Hodgkin disease
d. Wilms tumor
e. None of the above

12. Beckwith-Wiedemann syndrome is associated with which of the following malignancies in children?

a. Wilms tumor and hepatoblastoma
b. Retinoblastoma and Ewing sarcoma
c. Hodgkin’s disease and adrenal tumors
d. Acute leukemia and osteosarcoma
e. Both a and c
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a. Wilms tumor and hepatoblastoma
b. Retinoblastoma and Ewing sarcoma
c. Hodgkin’s disease and adrenal tumors
d. Acute leukemia and osteosarcoma
e. Both a and c

13. A 23-month-old boy presents with a 2-week history of progressive cerebellar ataxia. MRI of the brain is normal. What other type of malignancy should be sought?

a. Hepatoblastoma
b. Burkitt’s lymphoma
c. Hodgkin disease
d. Primitive neuroectodermal tumor (Ewing sarcoma) of the spinal cord
e. Neuroblastoma
14. Proptosis as a presenting sign is more commonly seen in which of the following pediatric tumors?

a. Hodgkin disease
b. Retinoblastoma
c. Ewing sarcoma
d. Rhabdomyosarcoma
e. T-cell acute lymphoblastic leukemia
f. Primitive neuroectodermal tumor

15. Coordination difficulties can be a presenting sign in which one of the following tumors?

a. Osteosarcoma
b. Hodgkin's disease
c. Primary involvement of the temporal bone with Ewing sarcoma
d. Central nervous system leukemia at diagnosis
e. Supratentorial brain tumor
f. Infratentorial brain tumor
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c. Primary involvement of the temporal bone with Ewing sarcoma  
d. Central nervous system leukemia at diagnosis  
e. Supratentorial brain tumor  
f. Infratentorial brain tumor

16. A 15-year-old boy has difficulty breathing when lying flat in his bed. When he sits up, he has no trouble breathing. What would you expect to find on his physical examination?

a. Rales at both lung bases  
b. Diffuse inspiratory and expiratory wheezing  
c. Large goiter  
d. Lower cervical and supraclavicular adenopathy  
e. Lungs clear to auscultation with no adenopathy detectable  
f. Croup-like cough with inspiratory stridor
17. The patient described in the preceding question would most likely have:

a. Hodgkin’s disease
b. Acute lymphoblastic leukemia, pre-B immunophenotype
c. Wilms tumor metastasis
d. Neuroblastoma metastasis
e. Sarcoidosis

18. A 10 y/o African-American boy is admitted to the hospital with bilateral leg pain, no fever. His hemoglobin is 8.1 g/dL with decreased MCV, bilirubin is 2.6, retic count 8.4%. Which of the following would be unlikely on his blood smear?

a. Target cells
b. Howell-Jolly bodies
c. Spherocytes
d. Sickled cells
e. Microcytes
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19. Which of the following would be least important in the above patient’s hospital management?

a. Anti-inflammatories  
b. Antibiotics  
c. Narcotic analgesia  
d. IV fluids
20. A well-appearing, well-nourished, asymptomatic 2-year-old boy presents to your office with a large right sided abdominal mass. Which of the following radiographic studies is not indicated?

a. Computed tomography of the chest, abdomen, and pelvis
b. MRI of the thoracic, lumbar, and sacral spine
c. Ultrasonography of the inferior vena cava and heart
d. Chest X-ray

21. A 5-year-old girl with neurofibromatosis is being evaluated for progressive visual difficulties and headaches. She should be evaluated for which of the following tumors:

a. Retinoblastoma
b. Orbital rhabdomyosarcoma
c. Optic glioma
d. Medulloblastoma
21. A 5-year-old girl with neurofibromatosis is being evaluated for progressive visual difficulties and headaches. She should be evaluated for which of the following tumors:

- Retinoblastoma
- Orbital rhabdomyosarcoma
- **Optic glioma**
- Medulloblastoma

22. A patient has been diagnosed with ITP. Which of the following are the most common initial treatments used?

- Steroids
- Splenectomy
- Anti-D immune globulin
- IVIG
- All of the above
- a, c, and d
Questions 23–28: For each of the toxicities listed below, match the chemotherapeutic agent most likely to produce the adverse effect.

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**SUGGESTED READINGS**