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Acute Lymphoblastic Leukemia in Children

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- 1. Acute lymphoblastic leukemia (ALL), the most common malignancy in children, accounts for what percentage of all cancer diagnosed in children who are younger than age 15?
 - a. 10%
- b. 15%
- c. 25%
- d. 40%
- 2. Bobby Sullivan recently was diagnosed with ALL. After a family conference with the physician, Bobby's parents approach the nurse and ask for clarification on Bobby's long-term survival. Which of the following age groups has the most favorable prognosis?
 - a. 1-4 years
 - b. 5-10 years
 - c. 11-14 years
 - d. 15-19 years
- 3. Later, Bobby's parents approach the nurse and ask how their seven-year-old child acquired leukemia. Which of the following causes would be the most appropriate response?
 - a. Exposure to a rare virus
 - b. Environmental influences
 - c. Mutations in their child's cells
 - d. Radiation exposure
- 4. A four-year-old boy is admitted to the pediatric oncology unit for evaluation of a possible diagnosis of ALL. In addition to a bone marrow aspiration (BMA) and comprehensive blood work, which additional diagnostic test should be used to confirm the diagnosis of ALL?
 - a. Lumbar puncture (LP)
 - b. Bone scan

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- c. Computed tomography (CT) of the head
- d. Testicular biopsy

- The definitive diagnosis of ALL is confirmed when the bone marrow reveals at least what percentage of lymphoblasts?
 a. 10%
 - a. 10% b. 20%
 - c. 25%
 - 5. 23%
 - d. 35%
- The most appropriate laboratory diagnostic study to establish subtypes (lineages) of ALL is
 - a. Cytochemistry stains.
 - b. Cerebrospinal fluid (CSF) cytology.
 - c. Immunophenotyping.
 - d. Cytogenetic analysis.
- 7. The rationale for treating the central nervous system (CNS) in patients with ALL is based on which premise?
 - a. The CNS is considered a pharmacologic sanctuary site.
 - b. More than 50% of children have detectable CNS disease at diagnosis.
 - c. Intrathecal chemotherapy is more efficacious than radiation therapy, with fewer side effects.
 - d. Intrathecal chemotherapy should be given only as salvage therapy.
- 8. Which cytogenetic abnormality is a poor prognostic indicator in children with ALL?
 - a. Trisomies 4 and 10
 - b. Translocation (4; 11)
 - c. Hyperploidy
 - d. TEL AML-1 gene
- 9. Mrs. Smith approaches the nurse and begins crying, stating, "I caused my child's leukemia because I gave her bad genes." Which response would be most appropriate?
 - a. Gently reassure the mother that ALL is not considered an inherited disorder.
 - b. Comfort the mother and encourage her to obtain genetic testing if she decides to have another child.

- c. Refer Mrs. Smith for individual counseling.
- d. Encourage Mrs. Smith to attend the unit support group.
- 10. In addition to fatigue, bone pain, and bleeding, which symptom is seen commonly in childhood ALL?
 - a. Fever
 - b. Blurred vision
 - c. Behavioral changes
 - d. Enlarged, very painful lymph nodes

Answers

Question 1: The correct answer is choice c, 25%. ALL is the most common malignancy in children, accounting for nearly 25% of all cancers diagnosed in children younger than 15. About 20% of all cases of ALL occur in adults. In 2003, approximately 3,600 adults and children will be diagnosed with ALL and 1,400 people with ALL will die (American Cancer Society, 2003; National Childhood Cancer Organization, 2003; Westlake & Bertolone, 2002). Therefore, choices a, b, and d are incorrect.

Question 2: The correct answer is choice a, 1–4 years. Five-year survival rates have been shown to be the highest, 85%, for the 1–4 age group. Survival in children with ALL is related strongly to age at diagnosis (Westlake & Bertolone, 2002).

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