CONTINUING EDUCATION TEST

LIQUID BIOPSY AND DROPLET DIGITAL PCR OFFER IMPROVEMENTS FOR LUNG CANCER TESTING

September 2018  [This form may be photocopied. It is no longer valid for CEUs after March 31, 2020.]

TEST QUESTIONS  Circles must be filled in, or test will not be graded. Shade circles like this: ☐ Not like this: ☐

1. Blood-based testing is also known as _______ within the oncology specialty.
   ○ a. serum testing
   ○ b. solid biopsy
   ○ c. liquid biopsy
   ○ d. clot testing

2. Which test methodology is utilized in blood-based testing to detect mutations in lung cancer patients?
   ○ a. immunassay
   ○ b. PCR/NGS
   ○ c. culture
   ○ d. none of the above

3. Research continues on blood-based testing for use in place of or as a complement to traditional tissue exams for disease detection, treatment decision making, and disease-state monitoring.
   ○ a. True
   ○ b. False

4. What is/are the concern(s) related to performing tissue biopsies on patients with non-small cell lung cancer?
   ○ a. It is invasive.
   ○ b. It can produce severe procedural complications.
   ○ c. both a and b
   ○ d. neither a or b

5. What is a limitation on the use of tissue biopsy in terms of sample availability?
   ○ a. storage viability
   ○ b. time constraints
   ○ c. the use of follow-up assays than can be run
   ○ d. all of the above

6. Many molecular testing strategies can take _______ and delay the start of therapy, while liquid biopsy tests only take _______.
   ○ a. months; 1 day
   ○ b. weeks; 1 week
   ○ c. months; 1 week
   ○ d. weeks; 3 to 5 days

7. What does liquid biopsy detect in the bloodstream of patients with lung cancer?
   ○ a. ctDNA and ctRNA
   ○ b. cells of the tumor
   ○ c. tumor antibodies
   ○ d. all of the above

8. Which cancer-specific detail(s) is/are identified in liquid biopsy testing?
   ○ a. disease progression
   ○ b. treatment response
   ○ c. risk of recurrence
   ○ d. all of the above

9. If a liquid biopsy is negative, a tissue biopsy can be collected to confirm the result.
   ○ a. True
   ○ b. False

10. The evolution of ddPCR in oncology has allowed for quantification to move from _______.
    ○ a. absolute to relative.
    ○ b. relative to absolute.
    ○ c. relative to mixed.
    ○ d. mixed to absolute.

11. A study performed on the validation of ddPCR mutations showed results consistent with tissue of _______.
    ○ a. 85 percent.
    ○ b. 91 percent.
    ○ c. 95 percent.
    ○ d. 97 percent.

12. What type of molecular testing is ideal for lung cancer patients who are going through multiple lines of therapy or treatment with novel combinations?
    ○ a. NGS
    ○ b. FISH
    ○ c. microarray
    ○ d. ddPCR

13. NGS testing provides data for _______.
    ○ a. genomic mutations.
    ○ b. genomic substitutions.
    ○ c. the whole genome.
    ○ d. none of the above

14. What is the approximate turnaround time for NGS testing?
    ○ a. 3 to 5 days
    ○ b. 1 to 2 weeks
    ○ c. 2 to 3 weeks
    ○ d. 4 to 6 weeks

15. ddPCR testing at the initial diagnosis can trigger reimbursement problems.
    ○ a. True
    ○ b. False

16. Establishing NGS results at the onset of a diagnosis is contradictory to the fact that _______.
    ○ a. the tumor will continue to evolve.
    ○ b. treatment decisions will not change.
    ○ c. both a and b
    ○ d. neither a nor b

17. What type of expression studies are being conducted that will conclude how patients respond to its specific immunotherapy?
    ○ a. BD-M1
    ○ b. PD-M1
    ○ c. PD-L1
    ○ d. PD-L2

November 2020: This test was prepared by Amanda Voelker, MPH, MT(ASCP), MLS, Clinical Education Coordinator, School of Health Studies, Northern Illinois University, DeKalb, IL.

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