cmpt Canadian microbiology proficiency testing

CMPT Clinical Bacteriology Program

Innovation, Education, Quality Assessment, Continual Improvement

Challenge PC234

February 2024

HISTORY

This paper challenge was sent to category A and C1 laboratories. The following scenario was presented to participants:

You receive 0.2 mL of Cerebrospinal fluid and a requisition for testing. How do you verify that there is sufficient sample to perform all the tests requested? See tests ordered on the requisition below.

Requisition - Laboratory

Patient name: John Jones

Diagnosis: headache and neck stiffness

Specimen: CSF sample

Tests requested:

√ Culture and Sensitivity

√ HSV PCR

√ West Nile serology

√ Cryptococcal antigen test and fungal culture

√ TB PCR and culture

Please choose the best option to describe how you would proceed?

□ A. Reject sample and request a recollection.

□ B. Check with the other laboratory testing divisions, if applicable, to see if they have received their aliquots of sample and, if they have received their aliquots, proceed with the testing.

□ C. Perform testing for all the requested items on the requisition

□ D. Inform the physician that only 0.2 mL of sample was received and ask the physician to prioritize the tests to be performed.

□ E. Option B & D should be done.

□ F. Not applicable to this laboratory

CMPT QA/QC

The Committee considered answer "E" as the best answer however, answers "B"and "D" were also considered acceptable but downgraded to 3.

MAIN EDUCATIONAL POINTS from PC234

1. Communication with clinicians is essential when an insufficient volume of sample is received to determine the optimal use of the specimen available.
2. Prioritization should take into account the volumes required for testing, so that testing is not attempted that requires more volume than is available.
3. When a specimen is collected it may be divided between laboratories in a manner that does not take into account the volumes needed for testing. Checking with other parts of the laboratory (for example Hematopathology, Chemistry) may give access to further specimen to allow testing to occur.
4. Specimen obtained from other laboratory areas may have been accessed in a non sterile manner. Sample acquired from them should be used for testing that is directed at specific pathogens (e.g. Cryptococcal antigen testing, M. tuberculosis nucleic acid amplification, West Nile serology) if possible.

SURVEY RESULTS

Reference labs: 11/13 labs reported E, 2 labs reported D

Participants: 42/58 (72%) chose option E; 1 lab chose option B and 11 labs chose option D. All labs received acceptable grades (Table 1).

Grading

Maximum grade: 4

Reporting option E was graded 4.

COMMENTS ON RESULTS

This scenario is not uncommon in laboratories, when multiple tests are requested and the sample volume is inadequate. In this example, many of the tests requested would have required the entire volume, and for some it would still have been inadequate (e.g. the testing for Mycobacterium tuberculosis infection requested).

Table 1. Reported results

Reported	Cat A	Cat C1	Total	Grade
E	39	3	42	4
B	1		1	3
D	11		11	3
F	3	1	4	ungraded
Total	**54**	**4**	**58**	

Selection A is not acceptable as the specimen is collected using an invasive procedure that entails risk to the patient. The specimen should be used to the extent possible.

Selection B is acceptable but, in many instances, might not provide sufficient volume of sample. The Committee felt it would be best combined with selection D.

Selection C is not possible while allowing sufficient volumes of sample for appropriate testing. Testing with inadequate volume may lead to false negative or misleading results.

Selection D is acceptable, and the committee felt this would be essential, but best combined with B to allow possibly more testing.