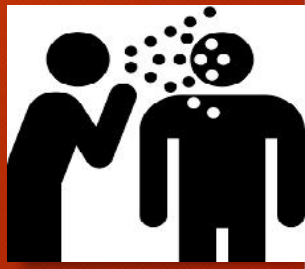
Interpretative Commenting in Diagnostic tests for Infectious diseases



Dr. Babak Bolboli

Interpretative Commenting Category

1. Preanalytical commenting
2. Analytical commenting
3. Mismatch between results, history, and clinical signs
4. Complementary and confirmatory tests
5. Definitive or presumptive and suggestive diagnosis

Pre-analytical Commenting

Example 1:

- CSF or blood sample
- Low volume
- Delay in transportation
- Probably collection in an unsterile tube

Pre-analytical Commenting

Comment 1 :

Test performed on CSF or blood culture received with insufficient volume or improper and nonsterile container may lead to false negative or false positive results.

Pre-analytical Commenting

Comment 2 :

CSF direct smear and culture results are unreliable due to insufficient

volume, improper transportation, or improper non-sterile container.

Comment 3:

It is recommended to repeat cultures with a new specimen for more evaluation if clinically indicated.

Pre-analytical Commenting

Example 2:

Stool exam

Report :

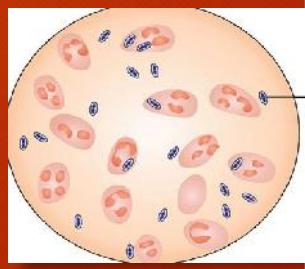
Fasciola hepatica egg seen

Comment 4:

Please repeat the test after avoiding liver or meat in the diet for a few days.

Analytical Commenting

A-Comment for microscopic and direct smear examination:



Example :

BAL or sputum sample

Primary report :

Many gram-positive, lancet-shaped, and encapsulated diplococci by gram staining method.

Comment 5:

The final report for definitive diagnosis and anti-microbial susceptibility test will be ready after 72 hours.

Analytical Commenting

B- Comment for culture, isolation and identification:

Example :

- Throat culture
- History : pharyngitis, fever,

without antibiotic therapy

Report :

Direct smear:

- WBC : few
- Bacteria : many
- Gram-positive cocci
- Gram-positive bacilli
- Gram-negative fusiform bacilli

Analytical Commenting

B- Comment for culture, isolation and identification:

Culture :

1. Alfa hemolytic Streptococci other than Pneumococci
2. Diphtheroid
3. No Group A Streptococci

Comment 6 :

No pathogenic bacteria growth after 48 hours.

(Oropharyngeal normal flora)

Analytical Commenting

C- Comment for AST(antimicrobial susceptibility testing)

Example:

Report:

MSSA S. aureus has grown in culture.

Comment 7 :

Anti-Staphylococcal Beta-Lactams e.g. Cloxacillin are much superior to Vancomycin for treatment.

Analytical Commenting

C- Comment for AST(antimicrobial susceptibility testing)

Report:

MRSA S. aureus has grown in culture.

Comment 8 :

Please avoid Beta-lactams, Vancomycin, and Fifth-generation

Cephalosporins are the drug of choice.

Mismatch between results, history and clinical signs

Example :

- Urine culture
- History : UTI-antibiotic therapy

Report:

- UA: WBC+++

  Bacteria++

- Culture :

  No bacteria grows after 48 hours.

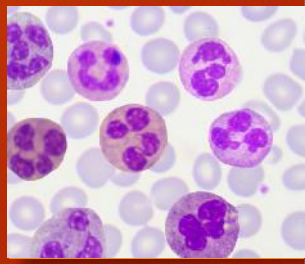
Mismatch between results, history and clinical signs

Comment 9 :

Urine culture results are unreliable because of antibiotic therapy at the testing time.

It is recommended to stop taking antibiotics 3 to 7 days before culture.

Complementary and Confirmatory tests



Example 1:

Urethral discharge

Report :

- Many PMN seen
- No detectable bacteria seen

Comment 10 :

If the patient has urethritis signs, more evaluation for

NGU(Non Gonococcus Urethritis) including Chlamydia, Mycoplasma

, and Ureaplasma is recommended by PCR.

Complementary and Confirmatory tests

Example 2:

- Sputum sample for B.K
- History : With signs

Report :

1-2 acid fast bacilli seen

per 100 field(doubtful)

Comment 11 :

If clinically indicated, TB PCR

for confirmation or rule out is recommended.

Complementary and Confirmatory tests

Example 3 :

HBV-HCV-HIV positive

Report :

HBS antigen positive

HBC antibody positive

Comment 12 :

HBV DNA PCR and viral load for confirmation is recommended.

Complementary and Confirmatory tests

Report :

HCV antibody positive

Comment 13 :

HCV RNA PCR for confirmation is recommended.

Complementary and Confirmatory tests

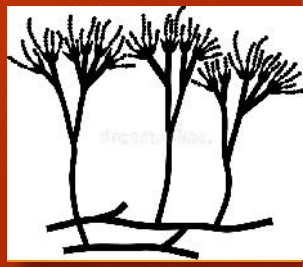
Report :

HIV suspicious

Comment 14 :

Western blot or PCR is recommended for confirmation .

Complementary and Confirmatory tests



Example 4 :

Respiratory sample

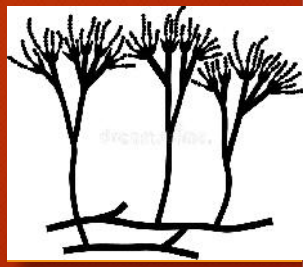
(sputum-BAL) With signs

Report :

Direct smear : mycelium seen

Culture : mold grown on SDA

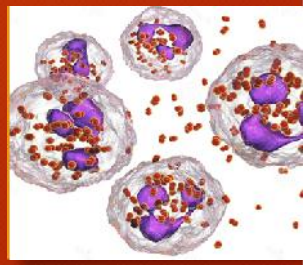
Complementary and Confirmatory tests



Comment 15 :

According to Gram stain findings, respiratory fungal panel, including Aspergillus, Mucor, Cryptococcus, and Candida is recommended by PCR.

Definitive or Presumptive and Suggestive diagnosis



Example 1:

Urethral discharge with signs

Report :

Many extra and intracellular gram-negative Diplococci like to Neisseria gonorrhea seen by gram staining method .

Comment 16 :

Definitive diagnosis :

Gonorrhea

Definitive or Presumptive and Suggestive diagnosis

Example 2:

Blood smear

History: Signs with fever

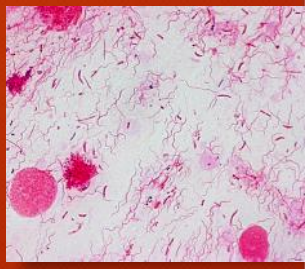
Report : Spirochetes seen in PBS resemble to Borrelia recurrentis.

Comment 17 :

Definitive diagnosis :

Relapsing fever

Definitive or Presumptive and Suggestive diagnosis



Example 3:

Throat sample

Report :

Many WBC

Many gram-negative bacteria,

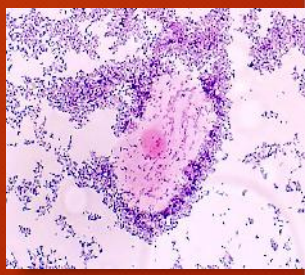
like to fusobacterium and borrelia seen.

Comment 18 :

Possible diagnosis :

Vincent angina

Definitive or Presumptive and Suggestive diagnosis



Example 4:

Vaginal discharge

Report :

WBC: Moderate(100%PMN)

Bacteria: Many

Clue cell: Few to moderate

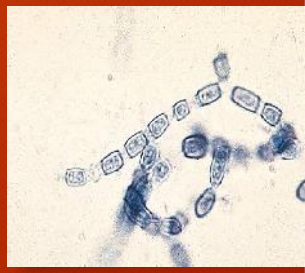
Gram variable coccobacilli like to Gardnerella seen .

Comment 19 :

Possible diagnosis:

Bacterial vaginosis

Definitive or Presumptive and Suggestive diagnosis



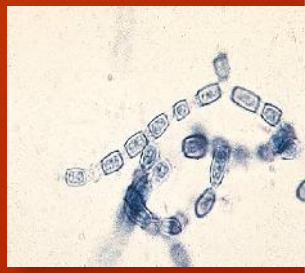
Example 5:

Skin or nail sample

Report :

Microscopic examination of direct smear reveals: Many septate hyphal elements and many Arthroconidia

Definitive or Presumptive and Suggestive diagnosis



Comment 20 :

Possible diagnosis :

Tinea corporis

Tinea unguium

Tenia pedis

Tinea cruris

The End

Thanks
Dr. Babak Bolboli