EXIT EXAM FOR WOLLO UNIVERSITY LAB STUDENTS

18/10/2011

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1. **Your patient is a 23-years old woman with diarrhea. She told you that she ate some raw shellfish at her home. She now has severe watery diarrhea, perhaps 20 bowel movements a day, and is feeling quite weak. A gram stain of the stool reveals curved gram-negative rods. Culture of the stool on MacConkeys agar shows colorless colonies. Which one of the following bacteria is the most likely cause of this infection?**
   A. **E.coli B. Salmonella Enteritis C. Shigella dysenteries D. Vibrio colerie**
2. **A specimen of thick, bloody sputum from a hospitalized 80-year-old patient with diabetes mellitus and difficulty in breathing is sent for laboratory analyses. The tests yield heavy growth of a lactose-positive, non-motile, gram negative rod with a large capsule. Which of the following bacteria is most likely to be the cause of the pulmonary problems?**
   A. **Enterobacter aerogenes B. E.coli C. Klebsiella pneumonia D. Pseudomonas aerugionosa**
3. **A child expresses fever and pharyngitis that result in laryngotrcheo bronchitis. It has also harsh, bark like cough and hoarseness. What is the most likely causative agent of the disease?**
   A. **Respiratory syncytial virus B. Coxasakie virusC. Para influenza virus D. Rhino virus**
4. **An outbreak of jaundice occurs in several young children who attend in the same day care center. If the outbreak was caused by a virus, which one of the following is the most likely cause?**
   A. **Hepatitis A. virusB Hepatitis B virus C. Hepatitis C virus D. Hepatitis D virus**
5. **A 15 years old boy is taken to his pediatrician after experiencing fever, malaise, and anorexia followed by tender swelling of his parotid glands.**

What is the most likely complication occurred in his patient? A. Gillian barre syndrome B. Oophoritis C. Myocarditis D. Orchitis

6. **An 8 month old infant is brought to the emergency room with a suspected RSV infection. Which of the following clinical illnesses would be most concerned about this child as a result of infection with this virus? A. BronchitisB. Encephalitis C. Meningitis D. Pancreatitis**
7. **A 3-years old child presents at the physician's office with symptoms of conjunctivitis, low-grade fever, and kopliks spots. The causative agent of this disease belongs to which group of virus?**
   A. Retroviridae B. PicorinaviridaeC. OrthomyxoviridaeD. Paramyxoviridae
8. **An Indian ink test was performed on CSF from an HIV-infected male patient. Many capsulated yeast cells were seen in the centrifuged sample. Further testing revealed a positive urease test and growth of brown colonies on bird/Niger-seed agar. What is the most likely causative agent?**
   A. Candida albicanceB. Cryptococcus neoformance D. Cryptococcus laurentii D. Candida tropicalis
9. **H.capsulatum, a dimorphic fungus, is found in soil basically concentrated in bird droppings. A person acquires the pathogens feces the environment and causes histoplasmosis. What is the most likely phase of H. capsulatuminfected biopsies?**
   A. Yeasts with broad-based bud inside macrophages C. Oval budding yeasts
   B. Mold with arthrospores D. Spherules containing endospores
10. **A significant number of yeast was isolated from a vaginal culture of a patient attending adult hospital. It exhibited the following characteristics. Microscopic clusters of blastoconidia along pseudo hyphae, terminal chlamydia conidia, positive germs tube, and positive sucrose. What is the most likely identification of this fungus?**
    A. Candida tropicalis C. Candida glabrara
    B. Candida albicance D. Candida laurel
11. **A 50-years old man, newly employed by a commercial farm that supplies eggs and chickens to industry develops flu like syndrome with fever, chills, myalgia, headache, and cough. He is diagnosed with histoplasmosis. A positive tissue biopsy would show the presence of;**

A. Arthrospores **C. Spherules containing endospores**

B. Oval budding yeast cells inside macrophages **D. Tuberculatemacroconida**

12. A patient who is a recent immigrant from a tropical, remote, rural area with no medical care is known working with a group of migrant crop harvesters. He has a large, raised, colored, cauliflower-like ankle lesion. Darkly pigmented, yeast like sclerotic bodies are seen in the tissue biopsy. What is the most likely diagnosis?

A. Actinomycoticmycetoma **C. Eumycoticmycetoma**

B. Chromoblastomycosis **D. Sporotrichosis**

13. A 42-year old obese female presented to the emergency center with complaints of worsening nausea, vomiting and abdominal pain. Blood biochemistry revealed high serum amylase level. What is the probable diagnosis for this patient?

A. viral hepatitis **B. acute pancreatitis** **C. renal colic** **D. acute gastritis**

14. A person having an abnormally low serum cortisol base line level is given ACTH. A subsequent serum cortisol measurement taken 1 hour after ACTH shows no change in the serum cortisol level. What is the most probable diagnosis of the patient?

A. Cushing's syndrome **C. Adrenal tumor**

B. Addison's disease **D. Hypopituitarism**

15. Following an acute myocardial infraction, activity of LDH usually peaks;

A. Within one day post-infraction and returns to normal after three days

B. Twenty-four to 36 hours post-infraction and returns to normal after 3 days

C. Forty-eight hours post-infraction and returns to normal after 4 days

D. Three days post-infraction and returns to normal after one weak

16. The estimated LDL cholesterol =total cholesterol-(HDL cholesterol +triglycerides/5) becomes inaccurate and thus, LDL cholesterol must be directly measured, if serum triglycerides are

A. >200mg/dl **B. >300mg/dl** **C. >400mg/dl** **D. >600mg/dl**

17. The serum protein electrophoresis pattern given below is suggestive of which of the following condition? (Draw the graph)

A. Nephritic syndrome **C. renal disease**

B. Severe liver disease **D. multiple myeloma**

18. A 35-years old diabetic woman is suspected of developing renal insufficiency. Which of the following specimens should be obtained to determine the amount of creatinine being excreted in the urine?

A. 2-hour post prandial
C. 24-hour timed collection
B. 12-hour timed collection
D. midstream" clean catch"

19. An unpreserved urine specimen collected at midnight is kept at room temperature until the morning hospital shift. Which of the following changes will most likely occur?

A. Decrease in urine color and clarity
C. decrease in glucose and ketone
B. Decrease in pH and specific gravity
D. decrease in bacteria and nitrite

20. A 45-years old female African American had her serum and urine creatinine determined using jaffe kinetic method. Her serum creatinine was 1.2mg/dl, urine creatinine: 500mg/L and urine volume: 1440ml/24hr. what is her creatinine clearance?Consider unit change

A. 41.7 ml/min
C. 416.7 ml/min
B. 41.7 L/min
D. 416.7mg/ml/min

21. The urine specimen was placed in a refrigerator.When the specimen was later removed to prepare an aliquot for microscopic analysis, the specimen was still orange but was now cloudy. The statement that best explains this increase in urine turbidity is?

A. The delay in analysis has allowed bacteria to proliferate.
B. Squamous epithelial cells in the urine have degenerated.
C. Because of the temperature change, normal urine solutes have precipitated.
D. The specimen was contaminated with vaginal fluids, and yeast has propagated.

22. A patient with a +1 protein reading in the afternoon is asked to submit a first morning specimen. The second specimen also has a +1protien. This patient is:ANS= it become positive ortho the second become negative

A. Positive for orthostatic proteinuria
C. positive for bens jones protein
B. Negative for orthostatic proteinuria
D. negative for clinical proteinuria

23. A 56-year patient was admitted to the hospital with normal blood glucose. Urine analysis revealed a positive glucose reading. The patient should be further checked for:

A. Diabetic mellitus
C. gestational diabetes
B. Renal diseases
D. pancreatitis

24. Upon arriving at work, a technologist notices that a urine specimen left beside the sink by personnel on the night shift has a black color and a pH of 8.0. the initial report describes the specimen as yellow with a pH of 6.0.the best explanation for these results is that the urine specimen:

A. Is from a patient with a urinary tract infection
C. is old and has allowed bacteria to proliferate

B. Contains abnormally high levels of melanin D. is contaminated with vaginal fluids, and yeast has propagated

25. An unidentified fluid is received in the laboratory with a request to determine if the fluid is urine or other body fluid. Using routine laboratory tests, what tests would determine that the fluid is most probably urine?

A. Glucose and ketone C. uric acid and amino acid

B. Urea and creatinine D. protein and amino acid

26. A routine urinalysis specimen is sent to the laboratory from a 23-year-old patient. When the laboratorian performs the microscopic examination of urine sediment, which of the following are enumerated using low-power magnification?

A. Bacteria B. casts C. red blood cells D. renal tubular cells

27. A 51-year-old man has pain full swellingin both knees. A synovial fluid is collected from the right knee and submitted to the laboratory. The specimen has a high concentrated and requires dilution to be counted. What diluents should be used?

A. Normal salineB. dilute acetic acid (2%)C. dilute methanol (1%)D. phosphate buffer solution(0.05mol/L)

28. A urine specimen delivered to the laboratory in a gray-top vacutainer may require:

A. Collection of a fresh specimen C. dilution for specific gravity

B. Centrifugation D. testing for glucose

29. A yellow colored semen specimen is received in the laboratory, the analysis is normal except for decreased sperm motility. The possible connection between the two abnormal findings may be caused by:

A. urine contamination B. prolonged abstinence C. medications D. acute infection and inflammatory cells in semen.

30. The following protozoa can be detected in patients urine:

A. Cyclospora oocytes B. Tricomonas virginals cyst C. Isospora oocytes D. Tricomonas virginals trophozoit

31. When a clinician suspects rickettsial infection for his/her febrile patients and requests weil-felix test. What bacteria is the source of the antigen in weil-felix reagent?

A. Rickettsia B. borrelia C. salmonella D. proteos

32. In a given serial dilution we have five test tubes and there is 1ml of saline contained. In the first test tube we add 1ml of serum containing a given analyte. Then we pour 1ml of solution from test tube 1 to test tube 2. Again we pour 1ml of solution from test tube 2 to test tube 3. And again we pour 1ml solution from test tube 3 to test tube 4. Finally we pour 1ml of solution from test tube 4 to test tube 5. So, what is the dilution in test tube 3? ANS=1^{st} (1/2),2^{nd} 1/2x1/2=1/4,3^{rd}=1/4x1/2=1/8…..

A. 1:4 B. 1:8 C. 1:16 D. 1:32

33. The rate of migration of DNA with in an agaros gel electrophoresis system is primarily based on what factor?

A. The size of the DNA fragments **C. the size of the wells of the cell**

B. The number of DNA fragments **D. the volume of the DNA sample loaded**

34. Which of the following is true about real time PCR and conventional PCR

A. Real time PCR amplify and detects nucleic acid as the same time

B. Conventional PCR detects nucleic acid without amplification

C. Real time PCR amplify without detection

D. Conventional PCR measure the amount of nucleic acid after each cycle

35. What public health laboratories do as opposed to clinical laboratories?

A. Routine blood testing **C. Cholesterol screening**

B. Disease surveillance **D. Diagnostic testing**