

1. Which is correct regarding Chlamydia STI
 - a) It is the most common cause of female infertility in young women
 - b) Sexual contact should be avoided for at least 2 weeks after treatment completely to prevent spread of infection
 - c) Doxycyclin 10mg bd for 7 days has a greater cure rate than single dose azithromycin 1g
 - d) Dose regimes for asymptomatic disease should be treated the same as symptomatic disease such as epididymitis and PID

2. Regarding Gonorrhoea which is true
 - a) Rectal infections with discharge although common in homosexual men is rare (<20%) in women
 - b) Blood or joint aspiration and cultures are positive in about 75% of cases of disseminated gonorrhoea
 - c) Gonococcal arthritis twice as commonly affects women
 - d) Coinfections with chlamydia is uncommon

3. Which condition is **not** associated with tertiary syphilis
 - a) Thoracic aneurysm
 - b) Aortic regurgitation
 - c) Meningitis
 - d) Arthralgia

4. Which of the following condition commonly present with symptoms a painful penile ulcer or lesion
 - a) Chancroid
 - b) Granuloma Inguinale
 - c) Lymphogranuloma Venereum
 - d) Genital warts

5. Which is not a qSOFA (quick Sequential Organ Failure) criteria where 2 or more positive signs increase mortality associated with sepsis
 - a) Hypotension: SBP \leq 100
 - b) Tachycardia: HR $>$ 120
 - c) Altered Mental State: GCS $<$ 15
 - d) Tachypnoea: RR \geq 22

6. Which is **not** true of treatment of sepsis
 - a) For every hour delay in giving antibiotics the mortality increases by 4%
 - b) Lactate levels $>$ 2 mmol/L despite volume resuscitation indicates septic shock

- c) Noradrenaline has been shown to be superior to adrenaline as the initial vasopressor
 - d) Steroids are only recommended if in septic shock and/or vasopressor therapy response is poor
7. Regarding infection from bites which has the highest infection risk and complication rate
- a) Cat bite
 - b) Dog bit
 - c) Rat bite
 - d) Human bite
8. In necrotizing fasciitis which is **incorrect**
- a) Pain and tachycardia out of proportion to symptoms are important findings for early diagnosis
 - b) Presence of gas on xray is not required for the diagnosis
 - c) If type II (monomicrobial) the most common organism is Staph. Aureus
 - d) Antibiotics alone are rarely effective and immediate surgical intervention is required
9. Which is true of Herpes infection
- a) HSV meningitis has a high mortality rate >70% without treatment
 - b) Recurrent herpes labialis all need oral treatment to prevent systemic symptoms
 - c) VZV is more contagious through contact with vesicle fluid than through aerosolized droplets
 - d) VZV pneumonitis is more common in pregnant women
10. Regarding Herpes ophthalmicus which sign is more likely to have ocular involvement
- a) Presence of Ramsay Hunt syndrome (facial paralysis)
 - b) Presence of Hutchinson's sign (vesicles on the tip of the nose)
 - c) Concurrent involvement of cranial nerves V1 and V2
 - d) Rash that crosses midline
11. Which is correct with respect to EBV
- a) EBV infection in pregnancy is not considered to be teratogenic
 - b) Acyclovir is ineffective at treating EBV
 - c) Corticosteroids can lessen symptom severity and should be routine prescribed
 - d) Monospot test negative effectively rules out infectious mononucleosis

12. Regarding Measles which is **incorrect**
- a) Koplick spots occur 24 hours before rash starting from head to soles
 - b) Otitis media is the most common complication of measles
 - c) Pneumonia is responsible for 50% of deaths from measles
 - d) Mortality associated with Subacute sclerosing pan encephalitis (SSPE) is less than with acute post-measles encephalitis
13. Which virus is **not** an Arbovirus commonly spread by the Aedes mosquitoes
- a) Zika virus
 - b) Chikungunya virus
 - c) Lyssa virus
 - d) Dengue virus
14. Which is **not** an indicator for advanced, late or end stage AIDS disease
- a) CD4 count <50
 - b) Pneumocystis Jiroveci (or P. Carinii) Pneumonia
 - c) Disseminated Mycobacterium Avium Complex (MAC) infection
 - d) Disseminated CMV infection
15. Which is true of HIV
- a) Antiretroviral therapy had dramatically decreased the rate of AIDS dementia
 - b) The mean incubation time from exposure of HIV to development of AIDS is 2 years
 - c) The treatment of Pneumocystis pneumonia (PCP or PJP) with AIDS is a 3 week course of Bactrim and serial sputum samples until no bacteria grown
 - d) Tuberculosis can occur relatively early in HIV disease with CD4 count 200-400
16. Regarding HIV risk to health care workers
- a) 20% of all needle stick injuries from known HIV infected source will seroconvert
 - b) Transfusion risk in Australia is 1 in 500,000 per unit
 - c) HIV is killed by all common antiseptic and sterilization techniques
 - d) Post exposure prophylaxis for HIV is substantially less effective if started after 72 hours
17. Which is **not** considered to be a common native valve related risk for endocarditis
- a) Tricuspid Regurgitation
 - b) Mitral Valve Prolapse
 - c) Bicuspid Aortic Valve
 - d) Aortic Stenosis

18. Which bacteria is likely to be the culprit if endocarditis is present but blood culture are negative without prior antibiotic administration
- Staph Aureus
 - Strep Viridans
 - Enterococcus
 - Haemophilus
19. Which is **not** a major Duke's criteria for endocarditis
- Echo evidence of endocarditis
 - Positive BC for community acquired Staph Aureus or enterococci in the absence of a primary focus
 - Single blood culture positive for Coxiella Burnetii
 - Presence of Osler nodes, Roth spots and Janeway lesions
20. Which pre-existing condition should get routine prophylactic antibiotics for endocarditis with dental procedures that manipulate gingival tissue
- Mitral valve prolapse
 - Unrepaired cyanotic congenital heart disease
 - Pacemaker insitu
 - Hypertrophic cardiomyopathy
21. Regarding Tetanus which is correct
- Spasm begin in the peripheries and spread truncal then into facial muscles
 - <1% of tetanus can occur without a wound identified
 - Incubation periods can be from <24h to >1 month
 - Patient who have survived the disease confer a 10 year immunity to the disease
22. When is tetanus vaccination **not** relatively contraindicated
- Dirty wound with immunizations up to date
 - Multiple recent doses of tetanus vaccinations
 - Guillain Barre syndrome within 6 weeks of previous dose of tetanus vaccination
 - Arthus hypersensitivity reaction to tetanus vaccine < 10 years previously
23. Regarding Rabies which is true
- Immunoglobulin should always be given post high risk Rabies exposure even if previous rabies immunization course had been given.
 - Immunoglobulin should be injected around the wound
 - If a dog (in a rabies endemic place) attacks only if provoked, it is very unlikely to be rabid

- d) Immunoglobulin should be given up to 30 days post vaccination as that is the usual time for antibody response

24. Regarding malaria life cycle which is true

- a) Clinical symptoms begin when the parasite sporozites invade the hepatic parenchymal cells
- b) P. Falciparum can remain dormant in the intrahepatic cells for months and later activate to cause clinical relapse
- c) P. Vivax and P. Ovale infections can relapse due to new merozoites released during the erythrocytic stage re-infecting the liver
- d) Only 52% of P. Vivax are evident within 1 month

25. Which is **incorrect** in the diagnosis and treatment of malaria

- a) Thick and thin films need to be repeated up to 2 times before it is considered negative
- b) Rapid antigen tests have high sensitivity for P. Falciparum but less for other forms or a low parasitemia load
- c) Primaquine can be used to treat dormant malaria in the liver to prevent relapse
- d) IV artesunate is the drug of choice for severe malaria and is superior to quinine

26. EMQ: Match the organism with the symptoms it produces

- i. Bacillus Anthracis
 - ii. Brucella
 - iii. Campylobacter
 - iv. Clostridium Botulinum
 - v. E. Coli
 - vi. Listeria
 - vii. Salmonella
 - viii. Shigella
 - ix. Vibrio Cholera
 - x. Yersinia
 - xi. Entamoeba
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- a. Vomiting, diarrhea, diplopia, paralysis. Associated with canned foods, honey in infants
 - b. Fever, myalgia, arthralgia, weakness, bloody diarrhea. Found in raw milk.
 - c. Bloody diarrhea, abdo pain, little or no fever. Avoid antibiotics as risk of haemolytic uremic syndrome.
 - d. Bloody diarrhea, abdo pain, fever, mucus. Fecal oral contamination. Ciprofloxacin as treatment
 - e. Profusely watery diarrhea, severe dehydration. From contaminated water.
 - f. Nausea, vomiting, bloody diarrhea. Can also cause maculopapular then ulcerative rash if transmitted cutaneously
 - g. Diarrhea, abdo pain, vomiting. Contact with raw poultry. Associated with Guillian-Barre

- h. Pseudoappendicitis, vomiting, diarrhea, rash. From undercooked pork. Antibiotics usually not required
- i. Diarrhea, vomiting, abdo pain, fevers, myalgia. IV ceftriaxone for severe disease. Vaccine available for certain species
- j. Fever, myalgia, diarrhea, meningitis. From soft cheeses
- k. Bloody diarrhea, rarely: fulminant colitis or hepatic abscess

27. EMQ: Match incubation period with the likely illness causing fever in a return traveler

- i. Less than 14 days
- ii. Up to 30 days
- iii. More than 30 days

- a. Malaria
- b. Strongyloides
- c. Japanese Encephalitis
- d. Ebola
- e. Typhoid
- f. Rickettsia

28. EMQ: Match the risk of transmission to the exposure virus and mode of transmission

- i. Less than 1 in 10,000 or negligible
 - ii. Less than 0.9%
 - iii. 1-3%
 - iv. up to 6%
 - v. up to 40%
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- a. Risk of Hepatitis C following needle stick injury from +ve known source
 - b. Risk of Hepatitis B following needle stick injury from known source with Hep B e Ag -ve
 - c. Risk of Hepatitis B following needle stick injury from known source with Hep B e Ag +ve
 - d. Risk of HIV following needle stick injury from known source
 - e. Risk of HIV following needle stick injury from discarded needle on a beach with unknown source
 - f. Risk of HIV from insertive anal intercourse
 - g. Risk of HIV from receptive anal intercourse
 - h. Risk of HIV from receptive penile-vaginal intercourse

- i. Risk of HIV from Oral intercourse
- j. Risk of HIV from splash injury from body fluids
- k. Risk of Hepatitis B from x1 packed cells of blood transfusion in Australia

Answers

1. A (Abstain from sex for 7 days after treatment complete, doxycycline and azithromycin have the same cure rates, complicated disease ie symptomatic should have more broad spectrum antis and require longer therapy. Chlamydial infections DUNN RJ emergencymanual.com 2016)
2. C (Rectal infections occur in 30 to 50% of women, blood and joint cultures are positive in 20 to 50% of cases of disseminated gonorrhoea, 50% thought to have a coexistent chlamydial infection. Gonorrhoea DUNN RJ emergencymanual.com 2016)
3. D (Primary syphilis: chancre. Secondary syphilis: fever, lymphadenopathy and maculopapular rash. Tertiary syphilis: CNS including dementia and tabes dorsalis, CVS, tumours or gumma of skin/bone/liver. Syphilis DUNN RJ emergencymanual.com 2016)
4. A (Painful lesions: HSV, chancroid, syphilis. Painless lesions: Lymphogranuloma venereum, granuloma inguinale, most genital warts)
5. B (Sepsis 3 Definition. Sepsis-definition LITFL revised 24 Feb 2016)
6. C (No difference between Norad and Adrenaline. Management of sepsis DUNN RJ emergencymanual.com 2016)
7. D (Cellulitis. DUNN RJ emergencymanual.com 2016)
8. C (Group A strep is the most common single organism type II cause but may be coinfecting with S.Aureus)
9. D (Herpes meningitis is generally benign whilst encephalitis has a mortality of 70% untreated and potentially poor clinical outcomes, recurrent herpes labialis does not require treatment, VZV is more contagious in aerosolized droplets)
10. B (Hutchinson's sign indicates involvement of nasociliary nerve and predicts high likelihood of ocular involvement. Tintinalli, Eye Emergencies section 19)
11. A (CMV can cause heterophile negative IM and is teratogenic, acyclovir is active against EBV but is effective only for hairy leukoplakia associated with HIV, steroids associated with increased complications and recommended only for severe disease, monospot can be falsely negative in early disease or extremes of age)
12. D (acute post-measles encephalitis has 10% mortality and 40% permanent morbidity, whilst SSPE has 100% mortality, can occur 4-10 years post infection and usually occurs to those who contract measles at <2 years of age. Measles DUNN RJ emergencymanual.com 2016)
13. C (Lyssa virus causes Rabies and is commonly spread by mammals)
14. B (PJP or PCP is an AIDS defining illness but does not indicate end stage disease)
15. D (Antiretroviral therapy decreases CNS infections but has not changed rate of AIDS dementia, mean time from HIV exposure to AIDS is 8 years in adults and 2 years in children <5 years old, PJP has a 70% relapse rate within 18 months and thus need prophylaxis therapy, growth in sputum is rare and unhelpful. HIV infection DUNN RJ emergencymanual.com 2016)
16. C (0.3% of needle sticks from HIV source seroconvert, transfusion risk is 1 in 5.4 million, PEP is less effective if started after 24 to 36 hours. HIV infection DUNN)

17. A
18. D (BC negative with no prior antis infectious endocarditis is due to HACEK group: Haemophilus, Actinobacillus, Cardiobacterium, Eikenella, Kingella, also Bartonella and Coxiella)
19. D (Duke's criteria: Major – BC positive for typical microorganisms consistent with IE from 2 separate cultures, BC positive for staph A. and enterococci in absence of primary focus, single culture positive for Coxiella burnetii, echo evidence of IE. Minor – predisposing factors, fever, vascular phenomena, immunological phenomena, positive BC not in major criteria. Positive for IE if 2 major criteria OR one major and three minor OR five minor)
20. B (high risk includes prosthetic heart valve, previous IE, unrepaired cyanotic congenital heart disease, repaired congenital heart disease with prosthetics or with residual defects, cardiac transplant with valve regurg)
21. C (Symptoms begin in the face especially masseters – locked jaw, then progress to trunk and peripheries, no wound is identified in up to 10% of patients, infection with tetanus does not confer immunity and patients still need vaccinations)
22. A (Dirty wound should have a tetanus vaccine despite immunizations up to date, Arthus reaction occur most often in adults with high serum tetanus antitoxin levels who have received frequent doses of tetanus toxoid)
23. B (Ig is unnecessary if previously vaccinated just booster vaccinations, 15% of animals with rabies do not exhibit aggressive behavior, no Ig is needed beyond 7 days post vaccination)
24. D (Clinical symptoms begin during merozoite erythrocytic stage, P.Falciparum does not remain dormant only Vivax and Ovale, once parasite becomes merozoites in RBCs they do not reinvade the liver, 95% of Falciparum evident in 1 month vs only 52% of Vivax. Tintinalli 8th edition)
25. A (Thick and thin films need to be repeated at least twice daily for as long as malaria remains a suspected diagnosis, primaquine should not be given to people with G6PD deficiency. Malaria DUNN RJ emergencymedicinemanual.com 2016)
26. A = iv
B = ii
C = v
D = viii
E = ix
F = i
G = iii
H = x
I = vii
J = vi
K = xi
27. (the febrile traveller. DUNN RJ emergencymedicinemanual.com 2016)
- A = ii
B = iii
C = i
D = i
E = i

F = ii

28. (<http://www.cdc.gov/hiv/risk/estimates/riskbehaviors.html>,
http://www.transfusion.com.au/adverse_events/risks/estimates,
Chapter 9.10 Cameron Textbook of Emergency Medicine 4th Edition,
Body fluid exposure. DUNN RJ emergencymedicinemanual.com 2016)
- A = iii (3%)
B = iv (1-6%)
C = v (40%)
D = ii (0.3-0.6%)
E = i (1 in 150,000)
F = ii (1 in 1,000)
G = iii (1.4%)
H = ii (4-8 in 10,000)
I = i (<1 in 10,000)
J = i (Negligible)
K = i (1 in 1 million)