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Evaluation questionnaire

IX Updating Course of Antimicrobials and Infectious Diseases 2019

1. The infrared spectroscopy technique in Microbiology is used to:

a) Identification of bacteria and fungi
b) Molecular typing
c) Differentiation between antimicrobial/antifungal resistance
d) All of the above are true

2. Regarding the magnetic resonance technique with nanoparticles, it is true that:

a) It is applied in blood samples for the detection of bacteria and fungi
b) It is applied in blood cultures for the detection of bacteria and fungi
c) It is a technique used for the detection of resistance genes
d) All of the above are false

3. Regarding the new antimicrobials, it is FALSE that:

a) Ceftolozane-tazobactam has activity against bacteria producing beta-lactamases type C
b) Ceftazidime-avibactam and ceftolozane-tazobactam have no activity against bacteria producing type B carbapenemases (metallo-beta-lactamases)
c) Imipenem-relebactam has activity against bacteria that produce type B carbapenemases (metallo-beta-lactamases)
d) Ceftazidime-avibactam is active against carbapenemase-producing bacteria of the KPC type

4. MALDI-TOF MS technology has been able to revolutionize the identification of all these microorganisms except:

a) Non-tuberculous mycobacteria
b) Yeast fungi
c) Gram-negative bacteria producing carbapenemases
d) *Chlamydiophytes*

5. One of the following antibiotics has no in vitro activity against multiresistant *Pseudomonas aeruginosa*:

a) Ceftolozane-tazobactam
b) Cefiderocol
c) Eravacycline
d) Plazomycin

6. Betalactamases, vaborbactam and nacubactam inhibitors are capable of inactivating the following Betalactamases except:

a) CTX-M
b) VIM
c) KPC
d) Amp-C

7. All but one of the following antimicrobials are drugs in development at the present time. Please choose the fake one:

a) Tebipenem (Spero)
b) ETX2514 + Sulbactam (Entasis)
c) Ceftazidime-Turbibactam (Sinextro)
d) Ibrexafungerp (SCY-078) (Scynexis)

8. According to a presentation made at the 2018 IDWeek in San Francisco, about Tedizolid, choose the correct statement:

a) It is a drug of the quinolone family
b) Can only be administered via IV
c) It has an oral bioavailability of approximately 50%
d) It has been well tolerated in treatments of up to 4 weeks in patients with osteoarticular infections

9. From the presentations on *Clostridium difficile* infection in the IDWeek of San Francisco 2018, all of the following can be deduced, except one of the following sentences, which is false and should state:

a) CDI has become a growing cause of nosocomial infection in several states of the American Union that surpasses nosocomials
b) All patients whose diagnosis is confirmed only by molecular technique (direct negative toxin) are colonized and do not require treatment
c) Unnecessary *C. difficile* tests can be reduced by hiring a person to act upon the test demand
d) A high Ct of the amplification curve (Ct> 29) allows excluding only colonized patients

10. In the PARTNER2 study, among serodiscordant couples who have sex without a condom, with the virologically suppressed HIV positive member, what was the rate of HIV transmission within the couple?

a) There are no linked transmissions
b) Transmissions unrelated to anal sex insertion, insignificant linked transmissions to anal sex receptive
c) Transmissions not related to receptive anal sex, insignificant linked transmissions with anal insertive sex
d) There are no sex-linked transmissions without a sexually transmitted infection, insignificant sex-linked transmissions with a sexually transmitted infection

11. In the phase III studies, GEMINI 1 and 2, what were the results in terms of efficacy and appearance of resistance with dolutegravir plus lamivudine as a starting therapy?

a) Biterapia inferior to triple therapy, without observing resistance
b) Lower bi-therapy versus triple therapy, the M184V resistance mutation was observed.
c) Non-inferior bi-therapy versus triple therapy, with no resistance observed.
d) Non-inferior biotherapy, but with the appearance of resistance mutation M184V

12. Regarding the results of the use of PrEP in the PREVENT cohort, sign the correct answer:

a) It is estimated that the use of PrEP prevented 85 new HIV infections after 7 months of follow-up
b) Fewer HIV infections were recorded with daily PrEP than with PrEP on demand.
c) No STI was registered in any of the arms of the study
d) The percentage of patients who took PrEP correctly was low, around 55%

13. Indicate the correct answer regarding carbapenemases-producing enterobacteria (EPC) compliance with hand hygiene indications is conditioned by

a) Ceftazidime-avibactam and ceftolozane-tazobactam are equally active against EPCs
b) Only ceftazidime-avibactam is active against EPCs with the exception of those that produce metallo-betalactamases
c) Only ceftolozane-tazobactam is active against all EPCs
d) Neither ceftazidime-avibactam nor ceftolozane-tazobactam have activity against EPCs

14. Indicate the correct answer. Resistance to ceftazidime-avibactam in *Klebsiella pneumoniae* can be produced by

a) Mutations in the sequence of the KPC carbapenemase that determines loss of affinity for avibactam
b) Hyperexpression of carbapenemase KPC together with alterations in the porins
c) Production of a metallobetalactamase
d) All are correct

15. According to the ECDC in its 2017 report, carbapenemic resistance in invasive isolates of *Klebsiella pneumoniae* has increased in recent years in Spain, reaching figures of:

a) 50%
b) 10%
c) 3%
d) There are no resistant isolates

16. *P. aeruginosa* is an important etiologic agent in case of:

a) Ventilation pneumonia
b) Neutropenic patient infection
c) Urinary tract infection in the patient with permanent probing
d) All of the above are true

17. Which of the following antibiotics makes it possible to reach a higher level than CMP (concentration that prevents the selection of mutants) of *P. aeruginosa*?

a) Ertapenem
b) Meropenem
c) Ceftolozane-tazobactam
d) Ceftazidime-avibactam

18. Which of the following statements do you think is right?

a) *P. aeruginosa* isolates resistant to carbapenems tend to be also colistin
b) More than 50% of neutropenic patients with MDR *P. aeruginosa* bacteremia receive inadequate empirical treatment
c) Ertapenem is active against about 50% of *P. aeruginosa* isolates
d) The extensively resistant *P. aeruginosa* isolates do not produce blue-green pigment

19. Point out the correct answer regarding the possible impact of edemas on the antibiotic PK

a) In general it is associated with reduced concentrations of any drug
b) Reduction of concentrations especially affects antibiotics with reduced volume of distribution
c) Only affects drugs that are highly bound to plasma proteins
d) All are incorrect

20. The efficacy time (T> MIC) is the PK / PD parameter related to the efficacy of beta-lactams, which of the following is considered reference values to achieve a bactericidal effect?

a) T> MIC: 40-50%
b) T> MIC: 70-80%
c) T> MIC: 90-100%
d) The efficacy of beta-lactams in AUC / CMI dependent

21. Considering the PK / PD criteria

a) Aminoglycosides can be administered in a single daily dose even in patients with normal renal function.
b) Vancomycin may have to be administered in doses that can cause nephrotoxicity
c) Tigecycline should be administered at twice the dose recommended in its data sheet
d) All are correct

22. Which of the following actions seems correct in a critical non-neutropenic patient with candidmia related to venous catheter by *C. albicans* sensitive to all tested antifungals (echinocandins, amphotericin B, fluconazole and voriconazole) that after catheter removal, 5 days of treatment with an echinocandin and with negative control blood culture removed at 48 h?

a) Continue with the echinocandin
b) De-escalate to voriconazole
c) De-escalate to fluconazole
d) Stop antifungal treatment

23. What is the wrong answer regarding differential blood cultures?

a) It is a diagnostic technique that does not require catheter removal.
b) They are blood cultures extracted simultaneously through catheter and direct venipuncture.
c) It is very suggestive of CRB if the difference is more than 120 minutes between the growth of the samples obtained by the catheter with respect to those obtained from peripheral blood.
d) It is very suggestive of catheter-related candidemia if the difference is more than 240 minutes between the growth of the samples obtained by the catheter with respect to those obtained from peripheral blood.

24. According to CRB by *Staphylococcus* coagulase negative (SCN):

a) The treatment of choice for methicillin-sensitive SCNs is vancomycin and for cefazolin for strains resistant to methicillin.
b) If the catheter was removed, uncomplicated CRBs can be treated with 5-7 days of antibiotic.
c) For patients with intravascular, biomedical devices or persistent signs of inflammation after catheter removal, antibiotic treatment is recommended for 5-7 days.
d) *S. lugdunensis* do not usually cause serious infections.

25. Which definition among the following is best suited to the concept of stewardship in sepsis?

a) Restriction of antibiotic use in the septic patient
b) Use of the antibiotic the most appropriate antimicrobial, at the optimal dose, and for the correct duration in the septic patient
c) Reduction of the economic expense associated with the use of antibiotics in the septic patient
d) Reduction in the number of days of antibiotic treatment in the septic patient

26. The implementation of stewardship programs in the septic patient enables all the following objectives except one ...

a) Decrease in the economic cost associated with the use of antimicrobials
b) Reduction of adverse effects
c) Reduction of the possibility of drug interactions
d) Reduction of the possibility of superinfections

27. Stewardship programs in the septic patient can be implemented ...

a) Ideally at the time of patient admission
b) They can be implemented throughout the patient's hospitalization
c) It is best to implement them upon patient discharge
d) At any of the previous moments

28. Which, or which, among the aforementioned statements are risk factors for recurrence of *Clostridium difficile* infection (CDI) ?; point them out:

a) Lack of adaptive immune response to toxins A and B
b) Use of antibiotics (for other infections) during or after an episode of CDI
c) Hypervirulent strains (such as NAP1/BI/027)
d) All of the above

29. Which of the following antimicrobials with activity against *Clostridium difficile* is characterized by greater protection or preservation of the fecal microbiota ?:

a) Fidaxomycin
b) Cadazolid
c) Ridinylazole
d) Vancomycin

30. One of the pairings described below between anti-*Clostridium difficile* drug and its target or mechanism of action is not correct; Which?:

a) Bezlotoxumab --- *Clostridium difficile* toxin B
b) Rifaximin --- RNA-Polymerase
c) Ridinylazole --- bacterial DNA and toxin production inhibition
d) Actoxumab --- *Clostridium difficile* binary toxin

31. Which of the following statements is true?

a) In the patient with febrile neutropenia, bacterial infection is the most frequent infectious complication
b) Bacteremia of endogenous origin by bacterial translocation is the most frequent bacterial infection
c) The choice of empirical antibiotic treatment in febrile neutropenia depends on the risk factors of multiresistance and local epidemiology
d) All of the above are true

32. In the management of patients with febrile neutropenia:

a) When the fever persists, an antibiotic with activity against gram-positive agents should be added to cover the possibility of vascular catheter infection.
b) If there is a clinical response and the fever remits, the same antibiotic treatment must be started empirically.
c) In stable, asymptomatic patients, and without microbiological documentation, withdrawal of antibiotic treatment is recommended regardless of neutrophil count.
d) Biomarkers are very useful for deciding to discontinue antibiotic treatment.

33. Which of the following statements is true?

a) In low-risk patients, antibiotics can be administered orally and ambulatory management.
b) The MASCC risk index should always guide the indication of hospital admission.
c) The universal use of antibacterial prophylaxis with quinolones is recommended.
d) Due to lack of scientific evidence, the use of new antibiotics recently marketed should not be used in neutropenic patients.

34. In which of these situations would you perform prophylaxis against filamentous fungi?

a) In patients with acute leukemia and induction chemotherapy
b) In patients with graft disease versus the recipient after an allotransplant who require corticosteroids
c) In any situation where the risk of infection by filamentous fungi is greater than 10%
d) All of the above are true

35. Which antifungal has the greatest scientific evidence of efficacy in prophylaxis of filamentous fungi?

a) Isavuconazole
b) Posaconazole
c) Voriconazole
d) Itraconazole

36. Using posaconazole in prophylaxis in patients with acute leukemia and intensive chemotherapy has demonstrated ...

a) Reduce the incidence of fungal infection
b) Reduce the incidence of aspergillosis
c) Decrease overall patient mortality
d) All are true

37. Which of the following anti-TNF-alpha agents has been systematically shown to be associated with a lower risk of reactivation of latent tuberculous infection?

a) Infliximab
b) Adalimumab
c) Etanercept
d) Certolizumab pegol

38. What is the minimum period of treatment with isoniazid from which it is usually considered safe to start treatment with an anti-TNF-alpha agent in a patient with latent tuberculosis infection?

a) One week
b) One month
c) Three months
d) Two weeks

39. What prevention strategy would be necessary to apply to a patient who is going to receive rituximab for a non-Hodgkin lymphoma and who has the following serological markers: positive anti-HBc IgG, positive anti-HBs IgG, negative surface antigen (HBs), Negative HBV DNA?

a) Since it presents both HBs antigen and HBV negative DNA, it would not require any specific prevention strategy
b) HBV DNA monitoring after 1 month and start of treatment with entecavir in case a positive result was obtained
c) Administer prophylaxis with lamivudine during the course of treatment with rituximab
d) He would administer prophylaxis with lamivudine, which he would maintain for at least 6-12 months after the end of treatment with rituximab

40. Which of the following options is not a cause of unexpected transmission of donor infection to the recipient of a solid organ transplant?

a) Preservation liquid contamination
b) Absence of diagnosis of active infection as a complication during donor admission
c) Asymptomatic latent infection diagnosed in the donor
d) False negative of donor infection screening tests

41. Indicate the correct answer:

a) Donor organs with HCV infection cannot be transplanted
b) Donor organs cannot be transplanted with West Nile virus encephalitis
c) Donor cytomegalovirus infection contraindicates the donation of any organ
d) Donor Chagas disease contraindicates liver donation

42. Indicate the wrong answer:

a) Screening for latent infection by PCR reduces the eclipse period
b) In the donation of a solid organ there is no "zero risk" against the transmission of an infection
c) Donor-derived infection is uncommon but potentially lethal
d) Blood cultures should be made to the donor at the time of donation to rule out a hidden bacteraemia

Correct answer sheet

IX Updating Course of Antimicrobials and Infectious Diseases 2019. Correct answers

	a	b	c	d
1				x
2	x			
3			x	
4				x
5			x	
6		x		
7			x	
8				x
9		x		
10	x			
11			x	
12	x			
13		x		
14				x
15			x	
16				x
17			x	
18		x		
19		x		
20			x	
21				x
22			x	
23				x
24		x		
25		x		
26	x			
27				x
28				x
29			x	
30				x
31				x
32			x	
33	x			
34				x
35		x		
36				x
37			x	
38		x		
39				x
40			x	
41		x		
42	x			