

## 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:**
- CDI has become a growing cause of nosocomial infection in several states of the American Union that surpasses nosocomials
  - All patients whose diagnosis is confirmed only by molecular technique (direct negative toxin) are colonized and do not require treatment
  - Unnecessary *C. difficile* tests can be reduced by hiring a person to act upon the test demand
  - 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?**
- There are no linked transmissions
  - Transmissions unrelated to anal sex insertion, insignificant linked transmissions to anal sex receptive
  - Transmissions not related to receptive anal sex, insignificant linked transmissions with anal insertive sex
  - 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?**
- Biterapia inferior to triple therapy, without observing resistance
  - Lower bi-therapy versus triple therapy, the M184V resistance mutation was observed.
  - Non-inferior bi-therapy versus triple therapy, with no resistance observed.
  - 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:**
- It is estimated that the use of PrEP prevented 85 new HIV infections after 7 months of follow-up
  - Fewer HIV infections were recorded with daily PrEP than with PrEP on demand.
  - No STI was registered in any of the arms of the study
  - 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**
- Ceftazidime-avibactam and ceftolozane-tazobactam are equally active against EPCs
  - Only ceftazidime-avibactam is active against EPCs with the exception of those that produce metallo-beta-lactamases
  - Only ceftolozane-tazobactam is active against all EPCs
  - 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**
- Mutations in the sequence of the KPC carbapenemase that determines loss of affinity for avibactam
  - Hyperexpression of carbapenemase KPC together with alterations in the porins
  - Production of a metallo-beta-lactamase
  - 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:**
- 50%
  - 10%
  - 3%
  - There are no resistant isolates

- 16. *P. aeruginosa* is an important etiologic agent in case of:**
- Ventilation pneumonia
  - Neutropenic patient infection
  - Urinary tract infection in the patient with permanent probing
  - 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*?**
- Ertapenem
  - Meropenem
  - Ceftolozane-tazobactam
  - Ceftazidime-avibactam
- 18. Which of the following statements do you think is right?**
- P. aeruginosa* isolates resistant to carbapenems tend to be also colistin
  - More than 50% of neutropenic patients with MDR *P. aeruginosa* bacteremia receive inadequate empirical treatment
  - Ertapenem is active against about 50% of *P. aeruginosa* isolates
  - 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**
- In general it is associated with reduced concentrations of any drug
  - Reduction of concentrations especially affects antibiotics with reduced volume of distribution
  - Only affects drugs that are highly bound to plasma proteins
  - 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?**
- $T > MIC$ : 40-50%
  - $T > MIC$ : 70-80%
  - $T > MIC$ : 90-100%
  - The efficacy of beta-lactams in AUC / CMI dependent
- 21. Considering the PK / PD criteria**
- Aminoglycosides can be administered in a single daily dose even in patients with normal renal function.
  - Vancomycin may have to be administered in doses that can cause nephrotoxicity
  - Tigecycline should be administered at twice the dose recommended in its data sheet
  - All are correct
- 22. Which of the following actions seems correct in a critical non-neutropenic patient with candidemia 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?**
- Continue with the echinocandin
  - De-escalate to voriconazole
  - De-escalate to fluconazole
  - Stop antifungal treatment
- 23. What is the wrong answer regarding differential blood cultures?**
- It is a diagnostic technique that does not require catheter removal.
  - They are blood cultures extracted simultaneously through catheter and direct venipuncture.
  - 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.
  - 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):**
- The treatment of choice for methicillin-sensitive SCNs is vancomycin and for ceftazidime for strains resistant to methicillin.
  - If the catheter was removed, uncomplicated CRBs can be treated with 5-7 days of antibiotic.
  - For patients with intravascular, biomedical devices or persistent signs of inflammation after catheter removal, antibiotic treatment is recommended for 5-7 days.
  - S. lugdunensis* do not usually cause serious infections.
- 25. Which definition among the following is best suited to the concept of stewardship in sepsis?**
- Restriction of antibiotic use in the septic patient
  - Use of the antibiotic the most appropriate antimicrobial, at the optimal dose, and for the correct duration in the septic patient
  - Reduction of the economic expense associated with the use of antibiotics in the septic patient
  - 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 ...**
- Decrease in the economic cost associated with the use of antimicrobials
  - Reduction of adverse effects
  - Reduction of the possibility of drug interactions
  - Reduction of the possibility of superinfections
- 27. Stewardship programs in the septic patient can be implemented ...**
- Ideally at the time of patient admission
  - They can be implemented throughout the patient's hospitalization
  - It is best to implement them upon patient discharge
  - 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:**
- Lack of adaptive immune response to toxins A and B
  - Use of antibiotics (for other infections) during or after an episode of CDI
  - Hypervirulent strains (such as NAP1/BI/027)
  - 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 ?:**
- Fidaxomicin
  - Cadazolid
  - Ridinylazole
  - Vancomycin
- 30. One of the pairings described below between anti-*Clostridium difficile* drug and its target or mechanism of action is not correct; Which?:**
- Bezlotoxumab --- *Clostridium difficile* toxin B
  - Rifaximin --- RNA-Polymerase
  - Ridinylazole --- bacterial DNA and toxin production inhibition
  - Actoxumab --- *Clostridium difficile* binary toxin
- 31. Which of the following statements is true?**
- In the patient with febrile neutropenia, bacterial infection is the most frequent infectious complication
  - Bacteremia of endogenous origin by bacterial translocation is the most frequent bacterial infection
  - The choice of empirical antibiotic treatment in febrile neutropenia depends on the risk factors of multiresistance and local epidemiology
  - All of the above are true

- 32. In the management of patients with febrile neutropenia:**
- When the fever persists, an antibiotic with activity against gram-positive agents should be added to cover the possibility of vascular catheter infection.
  - If there is a clinical response and the fever remits, the same antibiotic treatment must be started empirically.
  - In stable, asymptomatic patients, and without microbiological documentation, withdrawal of antibiotic treatment is recommended regardless of neutrophil count.
  - Biomarkers are very useful for deciding to discontinue antibiotic treatment.
- 33. Which of the following statements is true?**
- In low-risk patients, antibiotics can be administered orally and ambulatory management.
  - The MASCC risk index should always guide the indication of hospital admission.
  - The universal use of antibacterial prophylaxis with quinolones is recommended.
  - 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?**
- In patients with acute leukemia and induction chemotherapy
  - In patients with graft disease versus the recipient after an allotransplant who require corticosteroids
  - In any situation where the risk of infection by filamentous fungi is greater than 10%
  - All of the above are true
- 35. Which antifungal has the greatest scientific evidence of efficacy in prophylaxis of filamentous fungi?**
- Isavuconazole
  - Posaconazole
  - Voriconazole
  - Itraconazole
- 36. Using posaconazole in prophylaxis in patients with acute leukemia and intensive chemotherapy has demonstrated ...**
- Reduce the incidence of fungal infection
  - Reduce the incidence of aspergillosis
  - Decrease overall patient mortality
  - 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?**
- Infliximab
  - Adalimumab
  - Etanercept
  - 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?**
- One week
  - One month
  - Three months
  - 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?**
- Since it presents both HBs antigen and HBV negative DNA, it would not require any specific prevention strategy
  - HBV DNA monitoring after 1 month and start of treatment with entecavir in case a positive result was obtained
  - Administer prophylaxis with lamivudine during the course of treatment with rituximab
  - 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			