

Management of Invasive Fungal Infections: Applying Evidence-based Strategies and Individualizing Antifungal Therapy

This activity is located at www.cemidday.com

ASSESSMENT TEST



This assessment test has been provided as a study aid only. Follow the prompts at the end of the presentation to claim credit. **Credit must be claimed within 60 days of completing the activity.** After successfully claiming credit, you may print your statement of credit, and you can return at any time to print a duplicate statement of credit. For CPE credit, printed statements may not be necessary because your credit will automatically be reported to CPE Monitor.

1. Which type of invasive candidiasis can be detected by blood culture:
 - a. Candidemia in the absence of deep-seated candidiasis.
 - b. Candidemia associated with deep-seated candidiasis.
 - c. Deep-seated candidiasis that is not associated with candidemia.
 - d. Candidemia in a patient who has a central venous catheter.
2. The following statements are true of IDSA guideline recommendations on initial (empiric) therapy options for management of candidemia in non-neutropenic patients using an echinocandin EXCEPT:
 - a. Give caspofungin loading dose of 70 mg followed by 50 mg daily.
 - b. Give micafungin 100 mg daily.
 - c. Always start with fluconazole loading dose before starting an echinocandin.
 - d. Give anidulafungin loading dose of 200 mg followed by 100 mg daily.
3. Therapeutic drug monitoring (TDM) of antifungals is:
 - a. Rarely necessary unless toxicity is observed.
 - b. Should probably be performed in all patients receiving long term voriconazole therapy for aspergillosis.
 - c. Probably needed for fluconazole, voriconazole, posaconazole, and caspofungin because the efficacy and toxicity of these agents correlates with peak levels.
 - d. Is only necessary in patients receiving fluconazole therapy for CNS infections.
4. The following statements regarding therapeutic drug monitoring (TDM) of antifungals are all true EXCEPT:
 - a. TDM is warranted when an established relationship exists between plasma drug concentrations and efficacy or toxicity.
 - b. TDM is recommended for antifungal agents with a narrow therapeutic index.
 - c. TDM is warranted for antifungal agents with highly predictable pharmacokinetics.
 - d. TDM may be warranted for antifungal agents taken by patients with questionable compliance, absorption, or in whom there is a concern for drug-drug interactions.
5. Therapeutic drug monitoring (TDM) of posaconazole:
 - a. May be warranted, since higher random plasma concentrations correlate with toxicity in patients who receive posaconazole for prophylaxis.
 - b. May be warranted, since trough concentrations correlate with toxicity.
 - c. May be warranted, since higher random plasma concentrations correlate with outcomes in patients who receive posaconazole for prophylaxis.
 - d. Is never necessary.

6. Adverse effects of antifungals include all of the following EXCEPT:
 - a. Hepatic toxicity, particularly with azoles.
 - b. Renal toxicity with all formulations of amphotericin B.
 - c. Possible phototoxicity and rash with voriconazole.
 - d. Tinnitus with azoles and voriconazole.
7. Long term therapy with voriconazole has been associated with:
 - a. Nephrotoxicity.
 - b. Periostitis.
 - c. Fluoride deficiency.
 - d. Hirsutism.
8. Long term therapy with antifungal agents:
 - a. Is more common in patients who are treated for aspergillosis.
 - b. Is always well tolerated, if therapeutic drug monitoring (TDM) is employed.
 - c. Is associated with the same toxicities as observed with short term therapy.
 - d. Is rare, since most fungal infections require only short term (< 2 week) therapy.
9. Combination therapy for aspergillosis:
 - a. Should always utilize combination therapy with an azole such as fluconazole, plus another 'mold active' drug such as micafungin.
 - b. Has mainly been evaluated in patients receiving combinations of caspofungin + liposomal amphotericin B, and with combinations of caspofungin + voriconazole.
 - c. Should never utilize combination therapy, since outcomes are worse and toxicities greater.
 - d. Has only been evaluated in retrospective studies.
10. The diagnosis of aspergillosis:
 - a. Is difficult, and often is made by evaluation of CT scans, fungal biomarkers, and (ideally) by tissue culture.
 - b. Is optimally made by obtaining multiple blood cultures over a one week period.
 - c. Is difficult, unless the halo or air crescent signs are observed on a CT scan, since these are seen only in infections caused by *Aspergillus* species.
 - d. Is rarely necessary in most patients now that routine use of prophylactic agents provides universal protection.
11. Antifungal agents with in vitro activity against *Aspergillus* species:
 - a. Include all azoles and polyene (amphotericin B) formulations.
 - b. Include all azoles.
 - c. Include only select azoles (fluconazole and itraconazole).
 - d. Include only select azoles (itraconazole, voriconazole, and posaconazole).
12. When do IDSA Guidelines recommend initial therapy with fluconazole to treat systemic candidiasis infections?
 - a. When the patient is severely ill.
 - b. When the patient has recent azole exposure.
 - c. When the patient only has IV access.
 - d. When the patient is less critically ill with no recent azole exposure.