Guilan University
of Medical Sciences

Drug Information Leaflet (2)

"Caspofungin"

Amiralmomenin Hospital
Pharmacology Department

Dr. Azadeh Motavallian
Pharmacologist

NOVEMBER
2018

"Caspofungin"

Introduction

Caspofungin is one of the licensed agents in Echinocandins class. Echinocandins are the newest class of antifungal agents to be developed. This agent is active against *Candida* and *Aspergillus*, but not *C neoformans* or the agents of zygomycosis and mucormycosis.

Indication

Aspergillosis, invasive (salvage therapy)
Candidemia and other *Candida* infections
Candida infection, prophylaxis in neutropenic cancer patients at substantial risk (off-label use)
Candidiasis, chronic disseminated (hepatosplenic) (off-label use)
Candidiasis, empiric therapy (non-neutropenic ICU patients) (off-label use)
Candidiasis, esophageal
Candidiasis, esophageal, in HIV-infected patients (alternative agent) (off-label use)
Candidiasis, intravascular infections (native or prosthetic valve endocarditis, infection of implantable cardiac devices, suppurative thrombophlebitis) (off-label use)
Candidiasis, osteoarticular infections (osteomyelitis or septic arthritis) (alternative therapy) (off-label use)
Candidiasis, prophylaxis against invasive candidiasis (high-risk ICU patients in units with a high rate of invasive candidiasis) (alternative therapy; off-label use)
Candidiasis, oropharyngeal (refractory disease) (alternative therapy) (off-label use)
Fungal infections, empiric therapy (neutropenic patients)

Dosing: Adult (Duration of caspofungin treatment should be determined by patient status and clinical response).

Aspergillosis, invasive (salvage therapy)

IV: Initial dose: 70 mg on day 1; subsequent dosing: 50 mg once daily. Duration of therapy should be a minimum of 6 to 12 weeks and depends on site of infection, extent of disease, and level/duration of immunosuppression.

Guilan University
of Medical Sciences

Drug Information Leaflet (1)

"Amphotericin B deoxycholate (conventional)"

Amiralmomenin Hospital
Pharmacology Department

Dr. Azadeh Motavallian
Pharmacologist

NOVEMBER
2018

Candidemia and other *Candida* infections

IV: Initial dose: 70 mg on day 1; subsequent dosing: 50 mg once daily; generally continue for at least 14 days after the last positive culture or longer if neutropenia warrants. Higher doses (150 mg once daily infused over ~2 hours) compared to the standard adult dosing regimen (50 mg once daily) have not demonstrated additional benefit or toxicity in patients with invasive candidiasis (Betts 2009).

Note: IDSA Candidiasis guidelines recommend transition to fluconazole (usually after 5 to 7 days in non-neutropenic patients) in clinically stable patients with fluconazole-susceptible isolates and negative repeat cultures.

***Candida* infection, prophylaxis in neutropenic cancer patients at substantial risk (off-label use)**

IV: 50 mg once daily.

Candidiasis, chronic disseminated (hepatosplenic) (off-label use)

IV: Initial dose: 70 mg on day 1; subsequent dosing: 50 mg daily for several weeks, followed by oral fluconazole therapy.

Candidiasis, empiric therapy (non-neutropenic ICU patients) (off-label use)

IV: Initial dose: 70 mg on day 1; subsequent dosing: 50 mg once daily. Consider discontinuing after 4 to 5 days in patients with no clinical response; continue treatment for 2 weeks in patients who improve on antifungal therapy.

Candidiasis, esophageal

IV: Manufacturer's labeling: 50 mg once daily; continue for 7 to 14 days after symptom resolution.

Note: The majority of patients studied for this indication also had oropharyngeal involvement.

Alternate recommendations: Initial dose: 70 mg on day 1; subsequent dosing: 50 mg daily; may transition to oral fluconazole therapy once oral intake tolerable. In patients with fluconazole-refractory disease, continue caspofungin for 14 to 21 days.

Candidiasis, esophageal, in HIV-infected patients (alternative agent) (off-label use)

IV: 50 mg once daily; continue for 14 to 21 days. **Note:** A higher rate of relapse has been reported with echinocandins than with fluconazole.

Guilan University
of Medical Sciences

Drug Information Leaflet (1)

"Amphotericin B deoxycholate (conventional)"

Amiralmomenin Hospital
Pharmacology Department

Dr. Azadeh Motavallian
Pharmacologist

NOVEMBER
2018

Candidiasis, intravascular infections (native or prosthetic valve endocarditis, infection of implantable cardiac devices, suppurative thrombophlebitis) (off-label use): IV: 150 mg daily. For native or prosthetic valve endocarditis, therapy should continue for at least 6 weeks after valve replacement surgery (longer durations in patients with abscesses or other complications); for patients with implantable cardiac devices, therapy should continue for 4 to 6 weeks after surgery (4 weeks for infections limited to generator pockets and at least 6 weeks for infections involving the wires); for suppurative thrombophlebitis, continue for at least 2 weeks after candidemia has cleared.
Note: Step-down to fluconazole therapy is recommended in clinically stable patients with fluconazole-susceptible isolates and negative repeat cultures.

Candidiasis, osteoarticular infections (osteomyelitis or septic arthritis) (alternative therapy) (off-label use)
IV: 50 to 70 mg daily for at least 14 days, followed by fluconazole.

Candidiasis, prophylaxis against invasive candidiasis (high-risk ICU patients in units with a high rate of invasive candidiasis) (alternative therapy; off-label use)
IV: Loading dose: 70 mg on day 1, then 50 mg daily.

Candidiasis, oropharyngeal (refractory disease) (alternative therapy) (off-label use)
IV: Initial dose: 70 mg on day 1; subsequent doses: 50 mg once daily.

Fungal infections, empiric therapy (neutropenic patients)
IV: Initial dose: 70 mg on day 1; subsequent dosing: 50 mg once daily; continue until resolution of neutropenia; if fungal infection confirmed, continue for a minimum of 14 days (continue for at least 7 days after resolution of both neutropenia and clinical symptoms); if clinical response inadequate, may increase up to 70 mg once daily if tolerated.

Products

- Caspofungin acetate is available in vials of 50 and 70 mg of drug.
- Equilibrate the refrigerated vials to room temperature.
- Reconstitute both the 50- and 70-mg vials with 10.5 mL of sterile water for injection, sodium chloride 0.9%, or bacteriostatic water for injection and mix gently until dissolved.
- **Do NOT use dextrose-containing solutions**.
- Withdrawing 10 mL of the reconstituted solution will provide the full 50 or 70 mg as a clear solution.
- Do not use hazy, precipitated, or discolored solutions.
- The reconstituted solution should be withdrawn within 1 hour after reconstitution for preparation of the IV infusion.

Guilan University
of Medical Sciences

Drug Information Leaflet (1)

"Amphotericin B deoxycholate (conventional)"

Amiralmomenin Hospital
Pharmacology Department

Dr. Azadeh Motavallian
Pharmacologist

NOVEMBER
2018

Administration

- Caspofungin acetate is administered by IV infusion over a period of 1 hour.
- For a 70-mg dose, a solution volume of 250 mL should be used.
- For a 50- or 35-mg dose, a solution volume of either 250 or 100 mL may be used.

Stability & Compatibility Information

- Intact vials of caspofungin acetate should be stored between 2 and 8 °C.
- **Intact vials exposed to ambient room temperature for longer than 48 hrs should be discarded.**
- The reconstituted solution may be stored for up to 1 hour after reconstitution at room temperature up to 25 °C but **should be withdrawn within 1 hour after reconstitution** to prepare the IV infusion solution.
- Caspofungin acetate may be diluted in **sodium chloride 0.9, 0.45, or 0.225% or Ringer's injection, lactated** for administration. The drug diluted in these solutions is stable for up to 24 hrs at room temperature up to 25 °C and up to 48 hrs refrigerated.
- Caspofungin acetate is **unstable in dextrose-containing solutions**; such solutions should not be used for reconstitution or dilution of this drug.

Other Drugs

The manufacturer recommends that caspofungin acetate **not be administered with any other drugs.**

solution	compatible	incompatible
Sodium chloride 0.9%	*	

References

- caspofungin: Drug information available from Lexicomp® Drug
- caspofungin: Patient drug information available from https://www.uptodate.com/contents/caspofungin-patient-drug-information