

mucocutaneous lesions due to *Candida* species. Some patients have a thymoma or autoimmune polyendocrinopathy syndrome type 1 [555]. Fluconazole should be used as initial therapy for candidiasis in these patients. Response to antifungal therapy may be delayed when there is extensive skin or nail involvement. Because of the intrinsic immunodeficiency, most patients require chronic suppressive antifungal therapy and frequently develop azole-refractory infections [556]. Patients with fluconazole-refractory *Candida* infections should be treated the same as patients with AIDS who develop azole refractory infections [528].

XVII. What Is the Treatment for Esophageal Candidiasis?

Recommendations

131. Systemic antifungal therapy is always required. A diagnostic trial of antifungal therapy is appropriate before performing an endoscopic examination (*strong recommendation; high-quality evidence*).
132. Oral fluconazole, 200–400 mg (3–6 mg/kg) daily, for 14–21 days is recommended (*strong recommendation; high-quality evidence*).
133. For patients who cannot tolerate oral therapy, intravenous fluconazole, 400 mg (6 mg/kg) daily, OR an echinocandin (micafungin: 150 mg daily; caspofungin: 70-mg loading dose, then 50 mg daily; or anidulafungin: 200 mg daily) is recommended (*strong recommendation; high-quality evidence*).
134. A less preferred alternative for those who cannot tolerate oral therapy is AmB deoxycholate, 0.3–0.7 mg/kg daily (*strong recommendation; moderate-quality evidence*).
135. Consider de-escalating to oral therapy with fluconazole 200–400 mg (3–6 mg/kg) daily once the patient is able to tolerate oral intake (*strong recommendation; moderate-quality evidence*).
136. For fluconazole-refractory disease, itraconazole solution, 200 mg daily, OR voriconazole, 200 mg (3 mg/kg) twice daily either intravenous or oral, for 14–21 days is recommended (*strong recommendation; high-quality evidence*).
137. Alternatives for fluconazole-refractory disease include an echinocandin (micafungin: 150 mg daily; caspofungin: 70-mg loading dose, then 50 mg daily; or anidulafungin: 200 mg daily) for 14–21 days, OR AmB deoxycholate, 0.3–0.7 mg/kg daily, for 21 days (*strong recommendation; high-quality evidence*).
138. Posaconazole suspension, 400 mg twice daily, or extended-release tablets, 300 mg once daily, could be considered for fluconazole-refractory disease (*weak recommendation; low-quality evidence*).
139. For patients who have recurrent esophagitis, chronic suppressive therapy with fluconazole, 100–200 mg 3 times weekly, is recommended (*strong recommendation; high-quality evidence*).

140. For HIV-infected patients, antiretroviral therapy is strongly recommended to reduce the incidence of recurrent infections (*strong recommendation; high-quality evidence*).

Evidence Summary

Esophageal candidiasis typically occurs at lower CD4 counts than oropharyngeal disease [528–530]. The advent of effective antiretroviral therapy has led to a dramatic decline in the prevalence of esophageal candidiasis and a marked diminution in cases of refractory disease [531]. Most cases of esophageal candidiasis are caused by *C. albicans*. However, symptomatic infections caused by *C. glabrata*, *C. dubliniensis*, and *C. krusei* have been described [534].

The presence of oropharyngeal candidiasis and dysphagia or odynophagia in an immunocompromised host is frequently predictive of esophageal candidiasis, although esophageal candidiasis can present as odynophagia without concomitant oropharyngeal candidiasis. A therapeutic trial with fluconazole for patients with presumed esophageal candidiasis is a cost-effective alternative to endoscopic examination. In general, most patients with esophageal candidiasis will have improvement or resolution of their symptoms within 7 days after the initiation of antifungal therapy [557].

Fluconazole is superior to ketoconazole, itraconazole capsules, and flucytosine, and is comparable to itraconazole solution for the treatment of esophageal candidiasis [558, 559]; up to 80% of patients with fluconazole-refractory infections will respond to itraconazole solution [547]. Voriconazole is as efficacious as fluconazole and has shown success in the treatment of fluconazole-refractory mucosal candidiasis [63, 549].

The echinocandins are as effective as fluconazole but are associated with higher relapse rates than those observed with fluconazole [24, 87, 88, 550]. Thus, higher doses of echinocandins are recommended for use for esophageal disease than are used for candidemia to decrease relapses. Higher doses have been studied for micafungin [560]. Fluconazole-refractory disease responds to caspofungin, and it is likely that micafungin and anidulafungin are as effective as caspofungin. In patients with advanced AIDS, recurrent infections are common, and long-term suppressive therapy with fluconazole is effective in decreasing the recurrence rates [53]. The use of effective antiretroviral therapy has dramatically decreased the incidence of esophageal candidiasis in HIV-infected patients.

Notes

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