Cheatography

Antifungal Therapy Cheat Sheet

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Fungal Infections

"Opportunistic Infections":	Candidiasis:
- Wide spread use of broad spectrum of Antibiotics	- Elderly
- HIV patients	- Diabetic patients
- Immunosuppressants and cancer chemotherapy patients	- Pregnant women
	- Burn wound victims

Fungal Infection Treatments

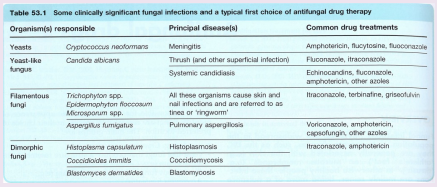

Table 53.1 Some clinically significant fungal infections and a typical first choice of antifungal drug therapy

Organism(s) responsible		Principal disease(s)	Common drug treatments
Yeasts	*Cryptococcus neoformans*	Meningitis	Amphotericin, flucytosine, fluconazole
Yeast-like fungus	*Candida albicans*	Thrush (and other superficial infection)	Fluconazole, itraconazole
		Systemic candidiasis	Echinocandins, fluconazole, amphotericin, other azoles
Filamentous fungi	*Trichophyton* spp. *Epidermophyton floccosum* *Microsporum* spp.	All these organisms cause skin and nail infections and are referred to as 'tinea or 'ringworm'	Itraconazole, terbinafine, griseofulvin
	Aspergillus fumigatus	Pulmonary aspergillosis	Voriconazole, amphotericin, capsofungin, other azoles
Dimorphic fungi	*Histoplasma capsulatum*	Histoplasmosis	Itraconazole, amphotericin
	Coccidioides immitis	Coccidiomycosis	
	Blastomyces dermatides	Blastomycosis	

Superficial Fungal Infections:

Dermatomycoses: skin, hair, nails (onychomycoses)

- Candidiasis
- Tinea versicolor
- Dermatophytoses

Dermatophytoses:

- *Trichophyton, Microsporum, Epidermophyton*
- Tinea capitis
- Tinea cruris
- Tinea pedis
- Tinea corporis (**Treatment**: Clotrimazole 2% cream, apply tds for 2 weeks after lesion has cleared)

Clinical Features:

- Itchy ring-like patches
- Raised borders
- Patches slowly grow bigger = as patches extend, a clear area develops in the center which may become hyperpigmented in dark skin.

Tinea Versicolor:

- also implicated for dandruff/ seborrhoeic dermatittis
- Selenium sulphide (Selsun)
- Zinc pyrithoine (Head and Shoulders)
- Soap: Sulphur (10%) and Salicylic acid (3%)

Oral Candidiasis (Thrush):

- Presents: painful creamy white patches, can be scraped off tongue and buccal mucosa.
- Common in healthy babies (up to 1mo)
- **Risk Factors:** Poor Oral Hygiene, Immunosuppression, Prolonged use of broad spectrum antibiotics or corticosteroids (including inhaled), Certain chronic diseases, Trauma
- **General Measures:** Identify underlying cause, Improve oral hygiene, Ensure proper fitting dentures

Treatment:

- Nystatin suspension, oral, 100 000 IU/mL, 1ml, 6 hourly after each meal/feed for 7 days.
= Keep in contact with affected area for as long as possible prior to swallowing
= In older children, ask child to swirl in mouth prior to swallowing
= In infants: apply to front of mouth and spread around mouth with clean finger
= continue for 48hrs after cure

Tinea Capitis:

Round or patchy bald areas with scales and stumps of broken of hair

Avoid shaving head in children

Don't share combs and hair brushes = Contagious

Treatment:

- Children: Fluconazole, oral, 6mg/kg once daily for 28 days
- Adults: Fluconazole, oral, 200mg once daily for 28 days

Systemic (Disseminated) Fungal Infections:

- Cryptococcal meningitis
- Candidiasis
- Pulmonary aspergillosis
- Histoplasmosis

Candida Oesophagitis:

- Oesophageal involement in HIV infected patients with oral candidiasis who have pain or difficulty swallowing
- Maintain hydration
- Fluconazole 200,g po daily for 14 days
- Refer: unable to swallow, poor response to fluconazole

Antifungal: Mechanisms of Action

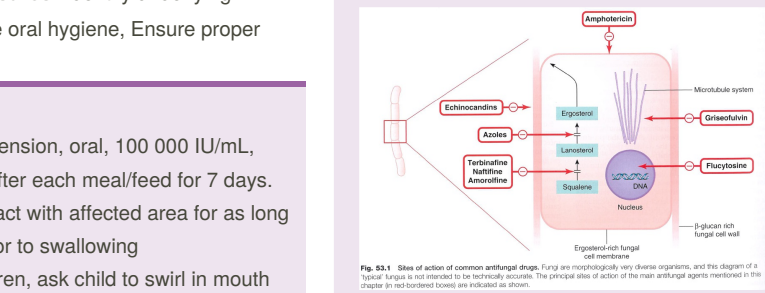

Fig. 53.1 Sites of action of common antifungal drugs. Fungi are morphologically very diverse organisms, and this diagram of a 'typical' fungus is not intended to be technically accurate. The principal sites of action of the main antifungal agents mentioned in this chapter (in red-bordered boxes) are indicated as shown.

Classes of Antifungal Treatment

Antifungal antibiotics	Synthetic antifungal drugs	Other
Polyene antibiotics	Azoles	Flucytosine**
Amphotericin B	*Imidazole*	Terbinafine
Nystatin*	Ketoconazole	
	Miconazole*	
Griseovulvin	*Triazoles*	
	Bifonazole*	
Echinocandins	Clotrimazole*	
Anidulafugin**	Econazole*	
Caspofungin**	Fluconazole	* Mostly topical agents
	Itraconazole**	** Second line / severe infections
	Posaconazole**	
	Voriconazole**	

Amphoteracin B:

- **Drug of Choice** of severe systemic mycoses
- pks: administered IV, eliminated slowly in urine
- !!nephrotoxicity, hypokalemia
- High probability of AEs: drugs tox and administration
- NB: toxicity monitoring (dosage and duration NB)

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Nystatin

- GI absorption is negligible
- Most of dose excreted in stool
- safe in pregnancy
- MOA: same as amphoteracin B

Fluconazole:

Treatment for: Candidiasis, CCM (maintenance txt)

Pks: D-wide, CFS; Unchanged in urine (DA)

- WEAK INHIBITOR of P450

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