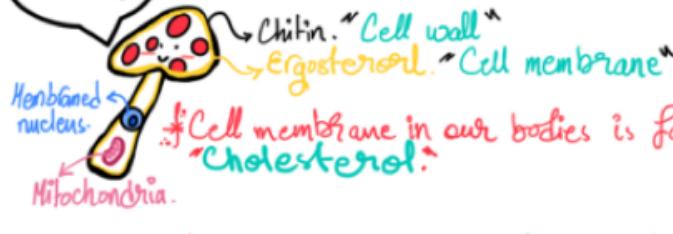


* Anti-fungal drugs *

I AM AN EUKARYOTIC



* Fungal infections "Mycoses" *

Superficial.

- Skin / Nails / Scalp / Mucous mem.

* Dermatomycoses

- Skin / Hair / Nails.

Systemic.

- Deep organs.

Pulmonary aspergillosis

Histoplasmosis.

Systemic candidiasis.

Cryptococcal meningitis

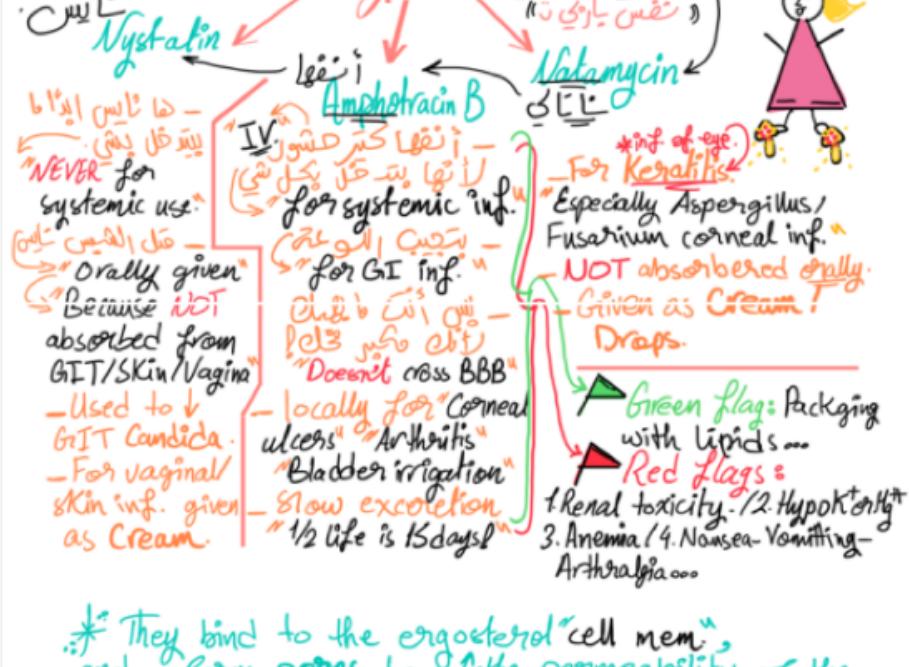
Candidiasis. # Normal flora.

- Mucous mem.

Mouth / Vagina

* More common in patients with weak immune sys.

- let's start with the first class of Anti-fungal drugs:



* They bind to the ergosterol "cell mem" and forms pores to ↑ the permeability of the mem. So loss of ions especially K⁺ causing DEATH



* Azoles - fungistatic -

Imidazoles 2N

- Micronazoles. - Ketoconazoles. - Clotrimazoles.

Triazoles 3N

- Fluconazole. - Itraconazole. - Voriconazole.

* Can treat Systemic fungal inf.

* They inhibit Cyt P450 Demethylase imp. for the formation of Ergosterol

* Allylamines *

Butenafine

Naftifine

Terbinafine.

* Dose leads to inhibit HUMAN squalene epo.

- Line (جسر) ; Allylamine (أليلامين) ; -

* Inhibit Fungal Squalene Epoxidase so ↓ the synthesis of Ergosterol.

* ↑ Accumulation of toxic amount of Squalene lead to the fungal cell DEATH.

* Echinocandins *

Caspofungin

Micafungin

Anidulafungin.

- Lungin (لجن) ; Echinocandins (أينكوندنسن) ; -

* Inhibit the synthesis of D-glucan thus, inhibiting the of the cell wall.

* Griseofulvine *

NO rising!

Rise ~~full~~

* Inhibits fungal mitosis by inhibiting mitotic spindle formation.

Flucytosine

فُلُوسِي زُهْم شُنِي

بالز جَيْ نَفْسِ (DNA)



Enters
the DNA

by Permease.

False nucleotide inhibits Thymidylate synthase = of Fungus thymidine acid

Essential DNA component.

The false nucleotide is further metabolized to a trimucleotide which incorporated to the fungal RNA thus, disrupting Protein syn.

Flucytosine + Amphotericin B are

= Synergistic

To treat Cryptococcosis.

Amphotericin B

↑ the cell permeability allowing more of Flucytosine to enter the cell.

Flucytosine + Itraconazole.

To treat Chromoblastomycosis.

Highly effective in AIDS pts. To treat Cryptococcal meningitis.

Widely distributed Even the CSF

Rapidly absorbed via gut

Red flags:

- 1- Reversible neutropenia / thrombocytopenia / bone marrow depression.
- 2- Nausea / vomiting / Diarrhea...
- 3- Reversible hepatic enzymes.

ShamAlsalem ~ GD Luck!!