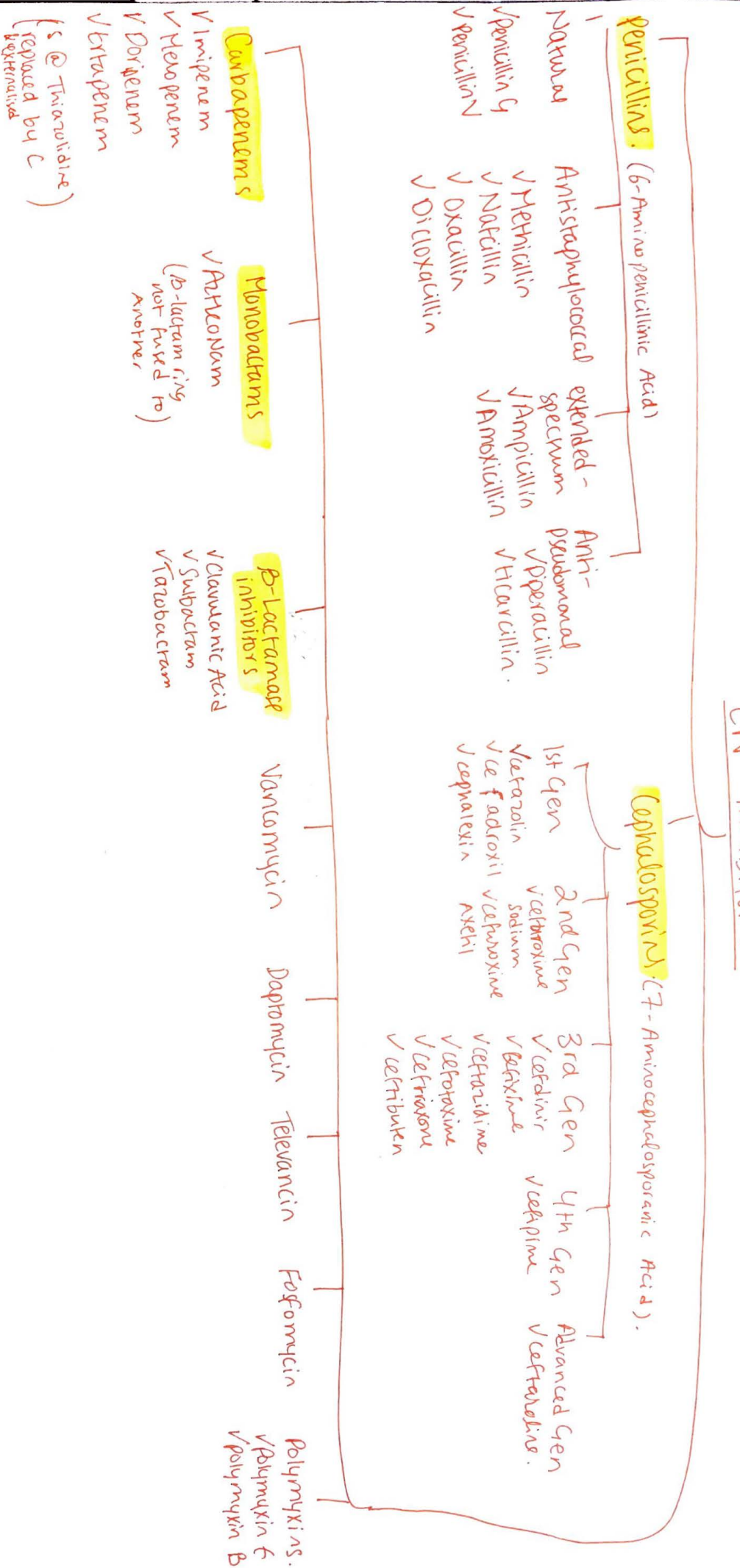


Antibiotics



#23+24:

Protein Synthesis Inhibitors

Tetracyclines

- ✓ Doxycycline
- ✓ Minocycline
- ✓ Demeclocycline
- ✓ Tetracycline

Glycyclines

- ✓ Tigecycline

Aminoglycosides

- ✓ Amikacin
- ✓ Gentamicin
- ✓ Neomycin
- ✓ Streptomycin
- ✓ Tobramycin

Macrolides & Ketolides

- ✓ Erythromycin
- ✓ Azithromycin
- ✓ Clarithromycin
- ✓ Telithromycin

Chloramphenicol

- ✓ Inhibit peptidyl transferase

bind to 30s subunit & prevent binding of tRNA to mRNA

bind to 30s subunit & distort its structure & misreading of mRNA

bind to 50s subunit & inhibit translation

Quinolones, Folic Acid Antagonists, UT Antiseptics

Fluoroquinolones

- 1st Gen: ✓ Nalidixic Acid
- 2nd Gen: ✓ Norfloxacin
- 3rd Gen: ✓ Levofloxacin
- 4th Gen: ✓ Moxifloxacin
- ✓ Ciprofloxacin

Sulfonamides

- ✓ Sulfamethoxazole
- ✓ Sulfadiazene
- ✓ Sulfadoxine
- ✓ Sulfasalazine

Trimethoprim

Colrimoxazole

Phenazone

UTI

- ✓ Nitrofurantoin
- ✓ Methenamine

Anthelmintics

intestine
blood
tissues

complete GIT

Trematodes

liver
lung
intestine
blood. → NO
or
GIT mouth

Cestodes

✓ Albendazole
✓ Niclosamide

Nematodes

✓ Diethylcarbamazine

✓ Ivermectin

✓ Mebendazole

✓ Pyrantel Pamoate

✓ Triclabendazole

Amoebiasis
↓
Amoebic

Mixed Amebicidals

✓ Metronidazole

trophozoite
↓
S₂-acceptor
↓
reduced cytochrome
c₅₅₀
↓
bind to protein
↓
DNA

Luminal

✓ Iodoquinol

✓ Paromomycin

Systemic

✓ Chloroquine

✓ Dehydroemetine

Antifungals

Amphotericin B

(*Streptomyces*
nodosus)

binds to ergosterol $\rightarrow$ pores.

Antimetabolites

✓ 5-Flucytosine.

Azoles

Imidazoles

• e.g. *is*
topically
for cutaneous
inf.

Triazoles
Systemically, systemic & cutaneous.
✓ fluconazole
✓ itraconazole
✓ posaconazole
✓ voriconazole.

Echinocandins

✓ Caspofungin
✓ Micafungin
✓ Anidulafungin

Antivirals (Respiratory infections)

Neuraminidase inhibitors

✓ Oseltamivir (influenza A & B)
✓ Zanamivir

(Neuraminidase is inserted into host cell membrane for release of virions & spread)

$\rightarrow$ inhibited.

Adamantane Antivirals

✓ Rimantadine (M2 protein)
✓ Amantadine (influenza A)
(M2 imp in uncoating virus & release)
 $\rightarrow$ blocked.

Ribavirin

(Synthetic
{ Guanosine }
Analogue).

(broad spectrum;
RNA & DNA).

(Replication of DNA &
RNA:
phosphorylated to Ribavirin-TP)
1. inhibits CTP formation.
2. prevent mRNA capping
3. blocking RNA polymerase

(Herpes virus infections)
effect @ Acute phase

Acyclovir

* prototype.

Hepatitis 1, 2, 3, 4

Cidofovir

Foscarnet

Ganciclovir