

Macrolides Spectrum of Activity

- **Erythromycin:** This drug is effective against many of the same organisms as penicillin G, it may be used in patients with penicillin allergy.
 consistency *شعير (+) شمع*
- **Clarithromycin:** Its activity against intracellular pathogens, such as Chlamydia species and Helicobacter pylori, is higher than that of erythromycin.
 + gram
- **Azithromycin** is more active against respiratory infections due to H. influenzae and Moraxella catarrhalis, it is the preferred therapy for urethritis caused by Chlamydia trachomatis.
 atypical bacterial cause *or vaginal*
- **Telithromycin-(KETOLIDES):** This drug has an antimicrobial spectrum similar to that of azithromycin. Moreover, the structural modification neutralizes the most common resistance mechanisms.
 glands *شعير* *but little resistance*

They have variations in their P.K profile
 Clarithro metabolised to active metabolite have activity
 azithro + clarithro → *بأشهر*

Macrolides-Adverse Effects

- **Gastric distress and motility:** Gastric upset is the most
 Full coated *شعير* *Clarithro*

➤ Most common with erythro; less with new agents
 من طفف *Project* *emesis*

- Cholestatic hepatitis – rare (hypersensitivity)
 ↑ bilirubin *project* *erythromycin*

➤ > 1 to 2 weeks of erythromycin estolate
 effect *تفرغ المعدة* *emesis*

- Other: ototoxicity (transient), (high dose erythro); QTc prolongation
 dose related *reversible* *مشكلة* *arrhythmia*

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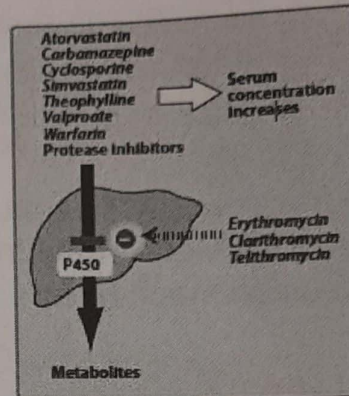
Macrolides- Drug Interactions

Erythromycin, Clarithromycin & Telithromycin— are inhibitors of cytochrome p450 system in the liver; may increase concentrations of:

they inhibit the metabolism of drugs

more risky theophylline + warfarin + statins

myopathy of statins
rhabdomyolysis



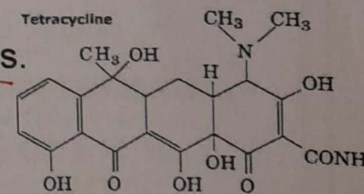
II. Tetracyclines

Their names end in "cycline"

Examples: Demeclocycline, Doxycycline, Minocycline, Tetracycline, Tigecycline

Are broad-spectrum bacteriostatic antibiotics that inhibit protein synthesis.

Tetracyclines are active against many gram-positive and gram-negative bacteria, including certain anaerobes, rickettsiae, chlamydiae, and mycoplasmas.



They are used in combination regimens to treat gastric and duodenal ulcer disease caused by Helicobacter pylori.

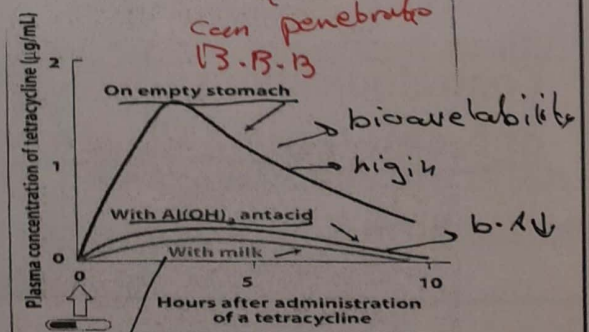
Activity of tigecycline includes Gram-positive cocci resistant to methicillin (MRSA strains) and vancomycin (VRE strains), beta-lactamase-producing Gram-negative bacteria

Indications:

- Mycoplasma pneumonia (atypical).
- Chlamydial infections.
- Acne vulgaris (doxycycline cap). *once daily for acn*
- V.Cholera and brucella *من شرب و الحليب غير مفيد*
- Eradication of H.pylori (Tetracycline). *one of the medications of Tetracyclines*

Tetracyclines-Pharmacokinetics

- Oral absorption is impaired by multivalent cations (Ca^{2+} , Mg^{2+} , Fe^{2+} , Al^{3+}); by dairy products and antacids, which contain multivalent cations. *di-tri valent*
- Must be taken with a full glass of water, either two hours after or before eating. (except doxycycline, minocycline). *أكثر اشياء 1, 2 before 3, 4 after*
- *they don't have the significant absorption in their structure then can be taken with food*
- Distributed through the body and can cross the placenta, CSF (minocycline)
- Most TCs are reabsorbed from the bile, metabolized to glucuronides and excreted in urine. *only this can penetrate B.B.B*
- Pts with renal failure give doxycycline (excreted via bile into feces). *my liver*



contain ca B.A ↓

Tetracyclines-Adverse effects

- **Gastric discomfort:** it results from irritation of the gastric mucosa and is often responsible for noncompliance in patients treated with these drugs. This discomfort can be controlled if the drug is taken with foods other than dairy products.
 (Handwritten notes: لا تأخذ مع لبن / لا تأخذ مع منتجات الألبان / iron supplement / cat feeding)
- **Deposition in the bone and primary dentition:** occurs during calcification in growing children. This causes discoloration and hypoplasia of the teeth resulting in brownish or yellowish discoloration.
 (Handwritten notes: يتسبب في تغير لون الأسنان / size of teeth)



Phototoxicity.

- **Vestibular problems:** These side effects (for example, dizziness, nausea, and vomiting) occur particularly with **minocycline**.
 (Handwritten notes: لتهيج في الجهاز الدهليزي / لا تأخذ مع لبن / لا تأخذ مع منتجات الألبان)

- **Superinfections:** Overgrowths of Candida and overgrowth of Clostridium difficile
 (Handwritten notes: (Proad spectra) / لا تأخذ مع لبن / لا تأخذ مع منتجات الألبان)

Contraindications: The tetracyclines should not be used in pregnant or breast-feeding women or in children less than 8 years of age.

they cross placenta + pass to milk
 و يتجعب لبن الأم

III. Clindamycin

→ its not Aminoglycoside

- Has similar spectrum as erythromycin + B. fragilis and anaerobes in GIT associated sepsis.
- Used in : 1. Bone and joint infection
2. Intra abdominal sepsis
3. Anaerobic infection

anaerobic GIT + abs inf

Adverse reaction: **Diarrhea** - Pseudomembranous colitis due to C. difficile,

TT: metronidazole or vancomycin.

STOP IT IF ANY DIARRHEA OCCURS

broad spectrum

vomiting, diarrhea, abdominal pain, fever

IV. Aminoglycosides

antibiotic induce diarrhea
cause (some) anaphylaxis
fluid & electrolyte replacement
metronidazole
Vancomycin (local GIT)

- Have "mycin" suffixes
- Ex. Neomycin, Gentamicin, Streptomycin.

- They are bactericidal.
- Parenteral administration is required for systemic effect, except neomycin. → can be given topical or for local GIT
- These are poorly lipid soluble (water soluble), so not absorbed orally.
- To achieve an additive or synergistic effect, aminoglycosides are often combined with a B-lactam antibiotic, or vancomycin, or a drug active against anaerobic bacteria as in endocarditis.

its action is on oxygen porins! aerobic bacteria are active in aerobic conditions, anaerobic bacteria are active in anaerobic conditions

- The severe nephrotoxicity associated with **neomycin** precludes parenteral administration, and its current use is limited to ^{gentamicin} ^{topically} ^{basically}
- ✓ **topical** application for skin infections like in burns, ED.
- ✓ **oral** administration to prepare the bowel prior to surgery
- gentamicin also available as: ED → to control GI infection

- Poor ^{B.B.B} transfer to CSF, even in inflamed meninges
- Eliminated unchanged in the urine, mainly by GF, may accumulate at renal cortex, dose reduction in renal impairment dose accumulation
- TDM is indicated for good therapeutic control. Drug monitoring → Therapeutic index narrow

Aminoglycosides → have time dependent killing

Therapeutic Uses

streptomycin → ^{والد} ^{مناد} ^{A.G} → regimens ^{مخطط} ^{mycobacteria} ^{Tuberculosis} ^{TB}

1. Gram -ve bacillary infections specially septicemia and pelvic abdominal sepsis ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿ ⓪ ⓫ ⓬ ⓭ ⓮ ⓯ ⓰ ⓱ ⓲ ⓳ ⓴ ⓵ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ ⓖ ⓗ ⓘ ⓙ ⓚ ⓛ ⓜ ⓝ ⓞ ⓟ ⓠ ⓡ ⓢ ⓣ ⓤ ⓶ ⓷ ⓸ ⓹ ⓺ ⓻ ⓼ ⓽ ⓾ ⓿ Ⓚ Ⓛ Ⓜ Ⓨ Ⓩ ⓐ ⓑ ⓒ ⓓ ⓔ ⓕ</

Vistayr الشك
 meter
 →
 Contraindicated
 side
 toxicity
 (toxicity)
 loop diuretic
 may lead to hearing loss

Side Effects of AG

- 1. Ototoxicity auditory & vestibular.

tinnitus is a warning sign + headache, dizziness and nausea. Irreversible and even with topical use.

→ dizziness + vertigo

- 2. Nephrotoxicity, dose related, reversible.

loop diuretics and old age are risk factors

→ الأثر الأخرى
 nephrotoxic medication
 other

- 3. Neurotoxicity, in high doses, curare like effect.

Neuromuscular blocking effect

→ الأثر الأخرى
 tubocurarine
 other muscle relaxant

- Because ototoxicity has been reported after fetal exposure, the aminoglycosides are contraindicated in pregnancy unless their potential benefits are judged to outweigh risk.

they can cross the placenta

risk: hemifacial spasm

risk: hemifacial spasm
 they can cross the placenta
 risk: hemifacial spasm
 seizures
 resisting AG

they can cross the placenta

(risk: hemifoliculitis)

و هار بزيه و خطر با الحل با الحل كثر ميم خطر على الأم أو الجنين (لعي حياة الأم أو الجنين)
 أيضا العافية بة بة كذا كثر من الخطر على الأم بة بة الجنين
 في أدوية الصرع بة بة الجنين أعالى الأم أ حسن فاضل عامل و بة بة بة بة بة بة
 بخاذا الأم فاضل خير بة بة بة A.G لا نه عند هاهنا بة بة

V. Cloramphenicol

Systemic serotype لا نه ← eye drop, ointment

S-F

It is well absorbed and widely distributed & penetrates well all tissues including the CNS. → meaning لا نه بة بة بة + broad

Certainly لا نه Cidal لم لا نه bacteriostatic بة بة tetracycline بة بة broad spectrum

- It is metabolized by glucuronidation in the liver, be careful in neonates.
- Excreted by the renal tub. & glo. filt.

by the kidney

Therapeutic indication

systemic use

□ because of its toxicity, its use is restricted to life-threatening infections for which no alternatives exist.

- ✓ Bacterial meningitis + brain abscess } this is main use
- ✓ *Rickettsia* (typhus).
- ✓ Anaerobes (brain abscess)
- ✓ *Haemophilus epiglottitis* in children,
- ✓ *Bact. conjunctivitis* (topical)

Adverse effects

→ some of them dose related and some are dose unrelated

□ Anemias:

- A rare fatal aplastic anaemia: (idiosyncratic) but often (non-dose-related)

suppression of the bone marrow

thrombocytopenia
leukopenia
anemia

- Reversible bone marrow depression caused by its effect on protein synthesis in humans (dose related)

WBCs, RBCs, Platelets

- Hemolytic anemia in G6PD deficient pts. → should be avoided

Glucose-6-phosphate - Dehydrogenase

here (جف)

نادر في الأطفال
salicylates
NSAIDs
ant-malarial
cotrimoxazole
sulfonamides

Paracetamol → ليس
مشكلة

+ Chloramphenicol

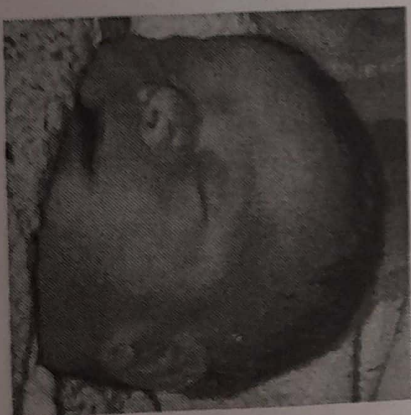
→ hemolysis risk

Adverse effects

- Gray baby syndrome: ^{Liver is metabolically immature} it occurs in neonates. Neonates have a low capacity to glucuronylate the antibiotic, and they have underdeveloped renal function.

↓
this is responsible to cause cyanosis

↓
bluish to gray color



high resist to penicillin

high resist to immunity & infection
MO

VI. Oxazolidinone-Linezolid

Used for serious infections caused by resistant G+ organisms, such as MRSA, VRSA, VRE, and penicillin resistant streptococci. يعمل على عزل البكتيريا عن الخلايا المضيفة
resist دواء مضاد للبكتيريا التي تتواجد في الدم و الأنسجة و الغشاء الخلايا المضيفة
its main clinical use is against drug-resistant gram-positive organisms.

- is completely absorbed after oral administration. An IV preparation is also available.

- Adverse effects

- N/V/D.
- Thrombocytopenia-monitor full blood count weekly.
- Avoid tyramine-containing food
- Severe optic neuropathy (rare)

* it can be associated to carry serotonin syndrome
is associated with elevation of
thiamine containing
syndrome
selective serotonin
reuptake inhibitors

muscle rigidity + hyperthermia

also the history of the

Inhibitors of NA synthesis

(RNA, DNA) nucleic acid synthesis inhibition يعني يسهل inhibition

our targets

- Sulphonamides and trimethoprim
- Metronidazole
- Quinolones
- Rifampicin anti-TB + anti bacterial activity

sulphur ذرة الكبريت

they are resimble to PABA

Sulphonamides & Trimethoprim

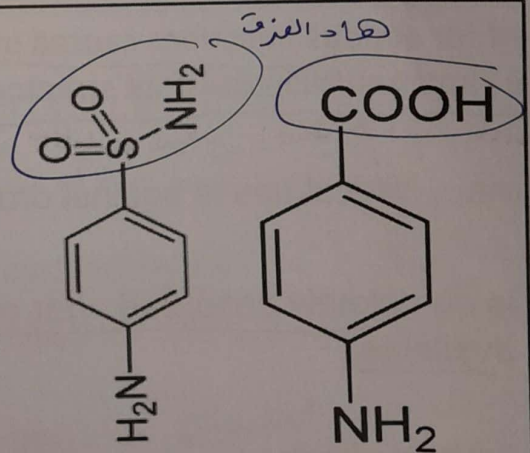
- Bacteria can not utilize external folic acid (FA) for DNA synthesis (human cell can)

folic acid حمض الفوليك humans البشر → فارق الاختيار selective

- Bacteria must synthesize FA from PABA.

- Sulphonamides are similar to PABA and inhibits the enzyme dihydro folate synthetase in synthetic pathway of FA.

- They are bacteriostatic.



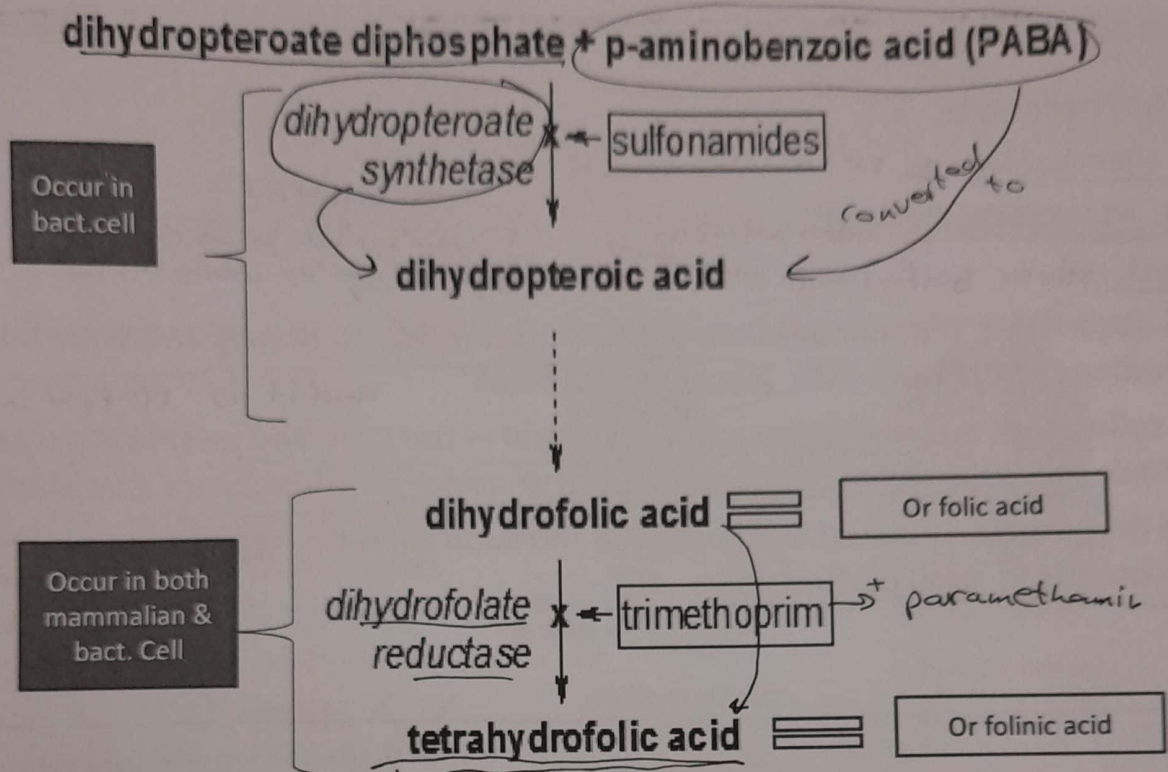
PABA & SA Structures

competitive منافس

antagonist

on the enzyme needed to for FA synthesis,

folic acid synthesis has 2 steps



inhibition
subsequential
reaction

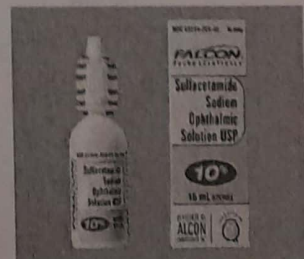
synergistic effect

trimethoprim + SA → synergistic effect

Sulfonamides

bacteriostatic
bacteriocidal

- **Bacteriostatic.**
- sulfasalazine (coz it is not abs orally); treatment of chronic inflammatory bowel disease IBD; ex: crohn's disease & ulcerative colitis (long term treatment)
- Silver sulfadiazine; locally cream to prevent infection in sever burns, leg ulcer because prevent colonization of bact.
- Sulfacetamide: ocular infection. eye drop



Pharmacokinetics

- Sulfonamides are:

1) oral, absorbable; ~~the~~ sulfamethoxazole $\rightarrow$ ^u bacterial inf

(2) oral, nonabsorbable sulfa salazin

سولفا سالازين
مخارون

علاج الحاد (CC) من $\text{C}_6\text{H}_5\text{N}_3\text{O}_7$
هذا هو بديلا عن $\text{C}_6\text{H}_5\text{N}_3\text{O}_7$

(3) topical. silver sulfasalazin co-tamⁱⁿ - 200 mg 2x

- Oral absorbable sulfonamides are distributed widely to tissues and body fluids (including the CNS and CSF), placenta, and fetus. *and it is trapped in acidic milieu*
- The sulfa drugs are acetylated and conjugated in the liver. The metabolite is retains toxicity, the toxic potential to precipitate at neutral or acidic pH. This causes crystalluria. *ex. Vaginitis, UTI*
- Sulfa drugs are eliminated by glomerular filtration thereby, require dose adjustments in renal dysfunction.

Adverse effects

- 1- Crystalluria (stone formation) → reversed by adequate hydration & alkalization of the urine. سالفاز من ادي دواء من كاد
- 2- Hypersensitivity (rash, angioedema) حساسية diuretics + cross sensitivity حساسية Co-trimoxazole S.A من الادوية
- 3- Hemolytic anemia in (G6PD).... فقر الدم الانحلالي في مرضي
- 4- (Photosensitivity.) → حساسية للضوء في مرضي
- 5- Kernicterus (bilirubin-induced brain dysfunction in newborns). نقص البيليروبين في حديثي الولادة

Contraindications

- ✓ In newborns and infants less than 2 months of age.
- ✓ Pregnant women at term (near the end of pregnancy)

فشل با (sulfonamides) في تركيزه
 لأنه د بزيه خطر ال bleeding

↑ د بفر في ال B.B.B عند دم د بفر

displace of binding of medication + bilirubin in albumin

↑ Free bilirubin
 بفر ال bilirubin
 Kernicterus

Should be avoided after 32 weeks of gestation.
 Sulfonamides should never be used in infants under the age of two months

This disorder may occur

in newborns, because sulfa drugs displace bilirubin from binding

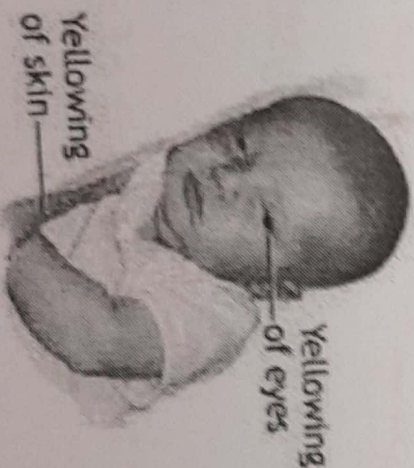
sites on serum albumin.

The bilirubin is then free to pass into the CNS,

because the baby's

blood-brain barrier is not fully developed and this

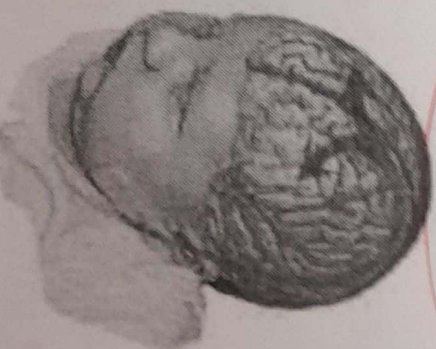
lead to brain damage



Jaundice

Excess bilirubin in blood

hyperbilirubinemia



Kernicterus

Bilirubin moves from bloodstream into brain tissue

Bilirubin-induced neurologic dysfunction

(BIND)

blood-brain barrier is not fully developed and this lead to brain damage

Excess bilirubin in blood
hyperbilirubinemia

Bilirubin moves from bloodstream into brain tissue
Bilirubin-induced neurologic dysfunction (BIND)

combinations

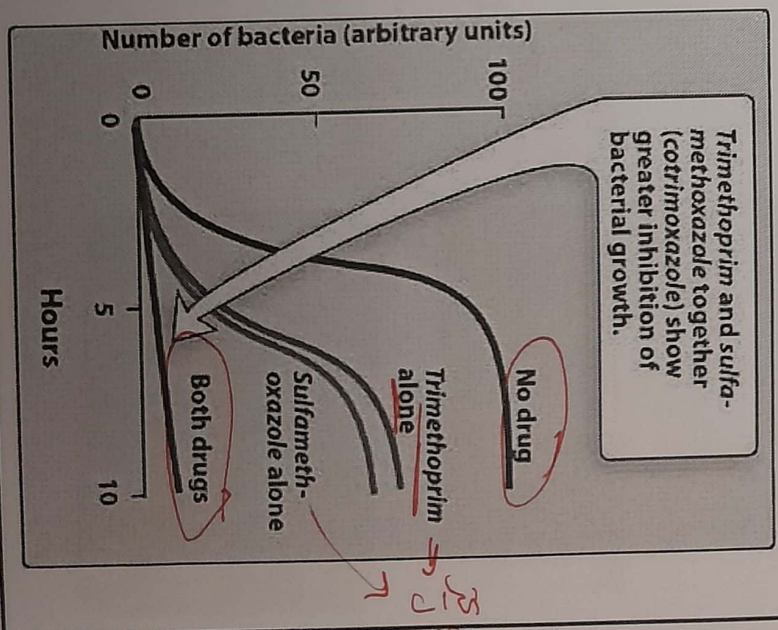
Cotrimoxazole

has a wide therapeutic use

S-A

- Trimethoprim and sulfamethoxazole are rarely used alone today.
- Individually, these drugs (alone) are bacteriostatic....
- This combination in co-trimoxazole provides a synergistic combination and bactericidal effect

balhatriin osalif
bactrin
septrin



1:5
س-آ

تریمیپروپرم
sulfamethoxazole

Co-trimoxazole

- "Septrin or Bactrim": Sulphamethoxazole (400mg) and Trimethoprim (80mg)

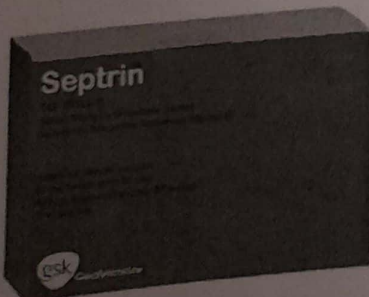
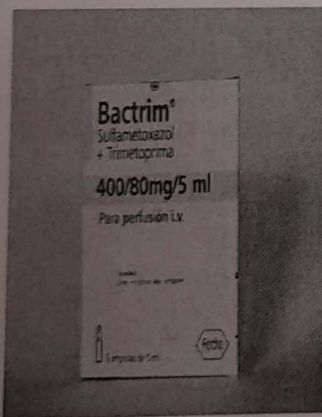
Well absorbed, mainly excreted by the kidney (80%) ? dose in renal disease

Th. Uses:

broad spectrum bactericidal drugs

1. DOC in pneumonia due to pneumocystis carinii in AIDS
2. Typhoid fever
3. Is commonly used for the treatment of uncomplicated skin and soft tissue infection.
4. urinary tract infections, prostatitis + vaginal infections

F. coli
 GI infections
 Shegella
 salmonella
 + respiratory tract inf by influenza



Therapeutic uses:

1. UTI. One double-strength tablet (each tablet contains trimethoprim 160 mg plus sulfamethoxazole 800 mg) given every 12 hours. twice daily
2. prophylactic in recurrent UTIs infection in women. One single-strength tablet (containing trimethoprim 80 mg plus sulfamethoxazole 400 mg) given three times weekly.