

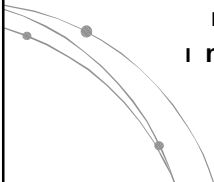
Antibacterial chemoterapeutics

Drugs acting in intestinal and
urinary infections



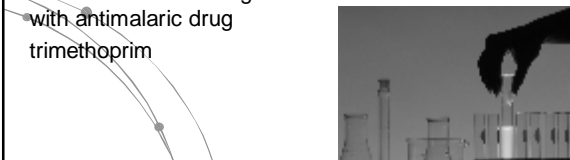
Classification

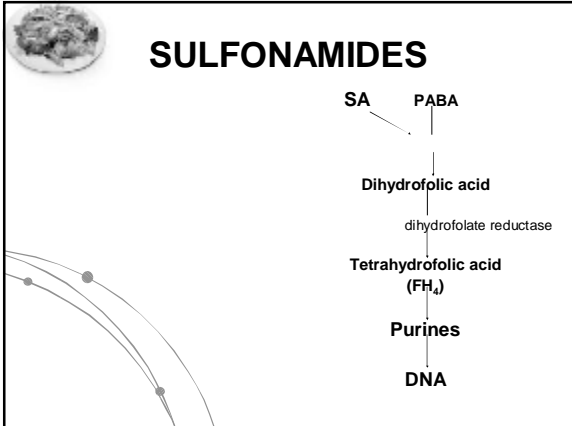
- | sulfonamides
- | pyrimidines
- | quinolones
- | nitrofurans
- | nitroimidazoles



SULFONAMIDES

- | The oldest group of the antimicrobial chemotherapeutics
- | Mostly used in urinary and respiratory infections
- | Today less used on its own because of the resistance and developement of newer drugs
- | More common is using combination of sulfonamide with antimalaric drug trimethoprim





- Antimicrobial spectrum:**
- | G+ and G- bacteria (Gonococcus, Meningococcus, Pneumococcus, Streptococcus)
 - | Nocardia
 - | Chlamydia trachomatis
 - | Some protozoas (Toxoplasma gondii, Neisseria meningitidis), some enteric bacteria
 - | Pseudomonas and Proteus are resistant
 - | Many secondary resistances (Stafylococcus)!!!
 - | Interestingly rickettsiae are stimulated by sulfonamides

Indications

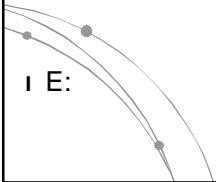
Occasionally:

Pharmakokinetics SA

I A:

I D:

I E:



Adverse effects of SA

I Quite often (5 – 10%), but not severe

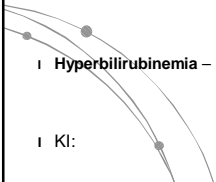
I Kidney damage –

I Allergic reactions

I Blood disorders

I Hyperbilirubinemia –

I KI:



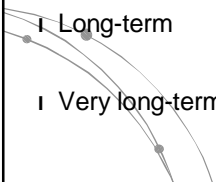
SA for systemic treatment

I Short-term

I Medium-term

I Long-term

I Very long-term



SA for topic treatment

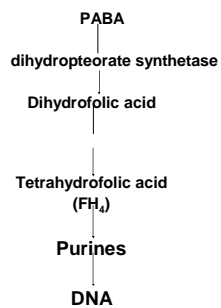
I GIT – p.o.

I Infectious diarrheas

I Colon inflammations (colitis ulcerosa, Crohn disease)

I Skin and mucosa

PYRIMIDIES - TRIMETHOPRIM




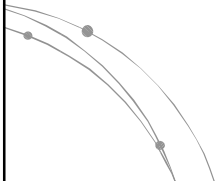
Combined treatment SA + pyrimidines = COTRIMOXAZOL

Cotrimoxazol

Indications: traveller diarrhoea, prostatitis, bronchitis, sinusitidy, urinal infekcion, pneumocyst pneumonia, gonorrhoea, typhus

HVLP: Biseptol, Cotrimoxazol AL, Sumetrolim

QUINOLONES

QUINOLONES

I MoA:

Pharmacokinetics:

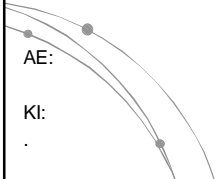
A:

E:

AE:

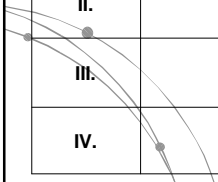
KI:

.



Quinolones generations

Generation	Drug
I.	
II.	
III.	
IV.	

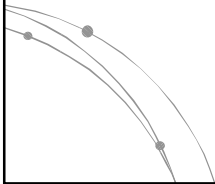


Fluoroquinolons II. generation

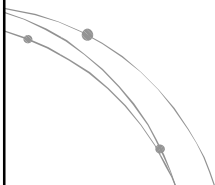
- I used most often
 - I broader spectrum, better distribution in body
 - I G- (Klebsiella spp., Proteus, Pseudomonas aer., Hemophilus influenzae), chlamydie, mycoplasmata, Mycobacterium tuberculosis (ciprofloxacin a ofloxacin)
 - I Good penetration into tissues after p.o. administration
- Indications: infections of respiratory and urogenital system, skin, gonorrhoea
- I *Norfloxacin*
 - I *ciprofloxacin*
- HVLP: Ofloxacin, Zanocin, Ciphin, Ciplox, Gyraloc, Nolicin, ...

III. Generation quinolons

IV. Generation quinolons



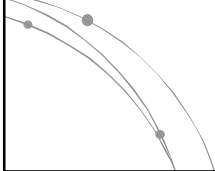
NITROFURANS



Nitrofurans

| Nitrofurantoin, Nifuratel

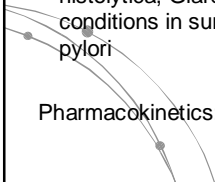
| Nifuroxazid



(NITRO)IMIDAZOLES

Indications: Trichomonas vaginalis, Entamoeba histolytica, Giardia lamblia (intestinalis), septic conditions in surgery, eradication Helicobacter pylori

Pharmacokinetics:



Nitroimidazoles

