#### ANTIMICROBIALS

### SULPHONAMIDES & POTENTIATED SULPHONAMIDES

- Sulphadiazine
- Sulphamethoxole
- ∞ Trimethoprim
- ∞ Baquiloprim



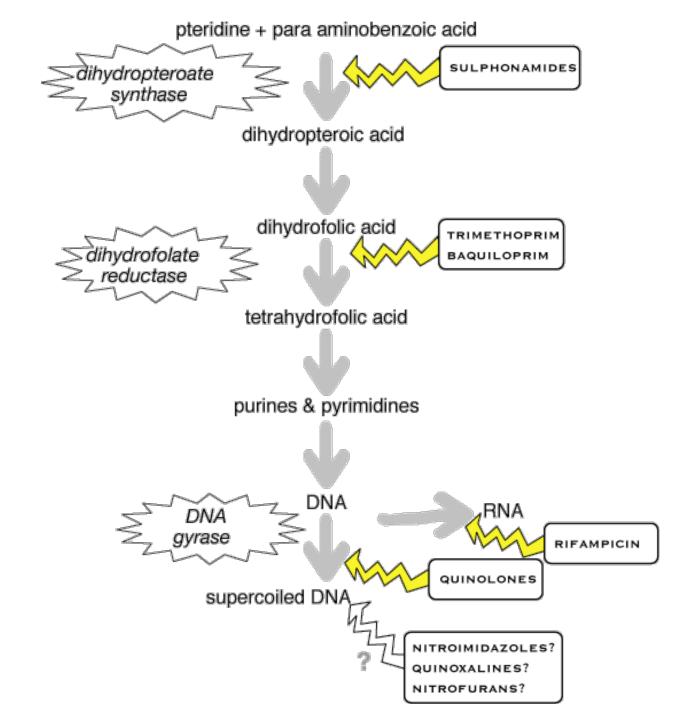
#### SULPHONAMIDÉS

Mechanism of Action

NUCLEIC ACID SYNTHESIS

Sulphonamides:

Competitive Inhibition
of PABA to dihydrofolic acid



#### ANTIMICROBIALS

SULPHONAMIDES

SULPHONAMIDES:

Bacteriostatic

INACTIVATED BY PUS AND NECROTIC TISSUE

## SPECTRUM OF ACTIVITY SULPHONAMIDES

#### SULPHONAMIDES:

Bacteriostatic:

some Gram +, -

coccidia, protozoa

Widespread Resistance & Cross R

#### TOXICITY SULPHONAMIDES

Crystalluria (potential for renal tox)
Hypersensitivity reactions
Keratoconjunctivitis sicca (dry eye)
Immune mediated polyarthritis (large dog breeds)

#### TOXICITY

SULPHONAMIDES

Vomiting

Drug induced fever

'Vitamin K deficiency

Hypothyroidism

Cats salivate



#### TOXICITY SULPHONAMIDES

Blood dyscrasias:

bone marrow depression leukopaenia, anaemia thrombocytopenia

Monosodium salt injectables are corrosive and irritate tissues

#### PHARMACOKINETICS

#### SULPHONAMIDES

Sulphonamides are weak acids

Absorbed well except for GIT sulphas

Distribution good (eye and CNS)

Hepatic Metabolism by acetylation

Elimination - tubular and glomerular filtration

#### USES SULPHONAMIDES

Gastrointestinal disease/diarrhoea

calves, cats, dogs, sheep, goats, pigs, deer and horses

#### DRUG INTERACTIONS

SULPHONAMIDES

B Vitamins

Procaine

'Highly Protein bound drugs, NSAIDs

Antacids if concurrent oral administration



#### Mechanism of Action

POTENTIATED SULPHONAMIDES
Trimethoprim and Baquiloprim
Aka Diaminopyrimidine analogues:

Inhibit dihydrofolate reductase: prevent the conversion of dihydrofolic acid to tetrahydrofolic acid

## SPECTRUM OF ACTIVITY POTENTIATED SULPHONAMIDES

Trimethoprim and Baquiloprim Diaminopyrimidine analogues are:

Synergistic with sulphonamides

Bacteriocidal - broad spectrum (not Pseudomonas, anaerobes?)

## TOXICITY POTENTIATED SULPHONAMIDES

Blood dyscrasias

Hypersensitivities in large dog breeds
Vomiting, Anorexia, Diarrhoea
Fever, weakness, depression
Co-Trim (sulphamethoxazole)
associated with hyperkalaemia

#### TOXICITY

#### POTENTIATED SULPHONAMIDES

Hepatotoxicity

Potentially fatal interaction with detomidine in the horse

## PHARMACOKINETICS POTENTIATED SULPHONAMIDES

Half-life varies with species

'Use baquiloprim in cattle T1/2 10 hrs

#### USES

#### POTENTIATED SULPHONAMIDES

Frequent use for:

Osteomyelitis

Prostatitis

Respiratory tract infections

Staph pyoderma



#### USES

#### POTENTIATED SULPHONAMIDES

Frequent use for:

Urinary tract infections

Wounds

Footrot

Diarrhoea

Navel ill.....



# SUMMARY POTENTIATED SULPHONAMIDES & SULPHONAMIDES

- · CHEAP \$\$
- · BROAD SPECTRUM
- ' BACTERIOCIDAL IN COMBINATION
  - · ADVERSE REACTIONS
  - · NUMEROUS INDICATIONS