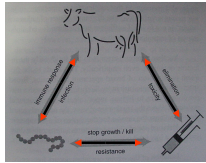


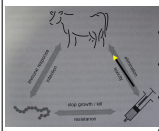
ANTIBIOTIC THERAPY

Therapeutic Principles



ANTIBIOTIC THERAPY

Therapeutic Principles



Antimicrobials/host:

- No effect
- Allergic reactions
- Residues
- Toxicity/adverse reaction
- Drug interactions

ANTIBIOTIC THERAPY

Therapeutic Principles

Antimicrobials/bacteria:

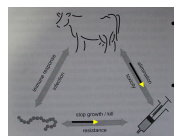


- No effect
- Bacteriocidal effect
- Bacteriostatic effect
- Resistance
- Superinfection

ANTIBIOTIC THERAPY

Therapeutic Principles

Antimicrobials/bacteria/ animal interaction:



- Bacteria to drug
- Inactivate drug
- Host to drug
- Biotransform
- Excrete

ANTIBIOTIC THERAPY
Therapeutic Principles
DRUG SELECTION PROCESS

- Make a diagnosis
- Identify the bacteria
- Pharmacokinetics
- Resistance?

ANTIBIOTIC THERAPY
Therapeutic Principles
DRUG SELECTION PROCESS

- Host factors
 - Species and licensed PARs/RVMs
 - Withholding times
 - Performance animal (race....)
 - Routes of administration

ANTIBIOTIC THERAPY
Therapeutic Principles
DRUG SELECTION PROCESS

- Host factors
 - Pregnant or lactating?
 - Age/Weight
 - Hydration/renal function

ANTIBIOTIC THERAPY
Therapeutic Principles
DRUG SELECTION PROCESS

- Host factors
 - Liver function
 - Biliary blockage
 - Immune status?

ANTIBIOTIC THERAPY
Therapeutic Principles
DRUG SELECTION PROCESS

- Mechanism of action
- Toxic effects
- Interactions
- Superinfections

ANTIBIOTIC THERAPY
Therapeutic Principles
DRUG SELECTION PROCESS

- Ease of administration
- Cost
- Supportive care
- Evaluate efficacy

ANTIBIOTIC THERAPY
Therapeutic Principles
COMMON PROBLEMS-Vet's Control

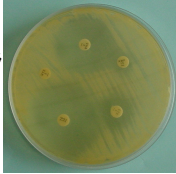
- Failure to make an accurate diagnosis
- Isolation of the wrong bacteria
- Wrong antimicrobial selected (PK)
- Inappropriate dosing (dose/interval)
- Owner compliance
- Insufficient supporting therapy

ANTIBIOTIC THERAPY
Therapeutic Principles
COMMON PROBLEMS

Not under Vet's Control

- Bacterial resistance
- Mixed infections
- Poor correlation of in vitro to in vivo sensitivity
- Side effects - cessation of therapy

**ANTIMICROBIAL
SENSITIVITY TESTING**



Kirby-Bauer Test

Limitations:

- In vitro vs in vivo
- Interpretation of Results
- MIC vs R or S data
- Interference by treatment

**ANTIMICROBIAL SENSITIVITY
TESTING
PROPHYLAXIS**

• **FEW APPLICATIONS:**

- Risk - immunocompromised patient
- Risk - surgery e.g. implants

• **GUIDELINES:**

- Bacteriocidal antimicrobials

**THERAPEUTIC PRINCIPLES
SUMMARY**

- Make a diagnosis
- Select the appropriate therapy
- Treat until the animal is normal
