August 2012

Antibiotics

1. Q: What are the classes of antibiotic drugs?

A: 1. Penicillins: Penicilln V or G, Amoxicillin, Ampicillin, Amoxicillin with Clavulanate, Cloxacillin

2. Cephalasporins: Cephalexin, Cefuroxime, Cefuroxime Axetil, Cefixime, Chloramphenicol

 3. Fluoroquinalones: Ciprofloxacin, Norfloxacin, Moxyfloxacin, Levofloxacin, Clindamycin, Trimethoprim-Sulphamethoxazol

 4. Macrolides: Erythromycin, Azithromycin, Clarithromycin

 5. Tetracyclines: Tetracycline, Doxycycline, Minocycline

 6. Aminoglycosides: Amikacin, Gentamicin, Tobramycin

2. Q: What are the modes of action of each of the classes of antibiotics?

 A: 1. Inhibit cell wall synthesis 2. Inhibit protein synthesis

3. Q: Which antibiotics inhibit cell wall synthesis?

 A: 1. Beta Lactams: Penicillins, Cephalasporins, Glycopeptides, Fosfomycins

4. Q: How are the Beta Lactams inactivated by bacteria? A: The bacteria produce beta lactamase enzymes.

5. Q: Name common beta lactamase enzymes.

 A: 1. Penicillinases 2. Cephalosporinases

3. Cephamycinases 4. Carbapenemases

6. Q: How are beta lactamase enzymes prescribed against?

A: 1. Use a combination of a β-lactam and a β-lactamase inhibitor

ie: Amoxicillin + Clavulanic Acid

7. Q: Which antibiotics inhibit protein synthesis?

 A: 1. Aminoglycosides: Gentamicin, Tobramycin, Amikacin

2. MLSK: Erythromycin, Clindamycin, Clarithromycin, Azithromycin

3. Tetracyclines: Tetracycline, Doxycycline, Minocycline

4. Phenocols: Chloramphenicol

5. Ansamycins: Rifampin

UTI Infections

1. Q: What are the classes of antibiotic drugs are used to treat UTIs?

A: 1. SMX / TMP or TMP (Bactrim): Sulfamethoxazole / Trimethoprim or Trimethoprim

2. Nitrofurantoin 3. Amoxicillin or Amoxicillin / Clavulanic Acid

4. Fosfomycin Tromethamine 5. Fluoroquinolones

6. Cephalosporins 7. Aminoglycosides

9. Q: Which antibiotics are the first-choice for treating uncomplicated UTIs?

 A: SMX / TMP or TMP.

10. Q: When are SMX / TMP and TMP not to be used to treat a UTI?

A: 1. Drug resistance 2. Sulfa drug allergy

1. Q: What is the usual course of treatment with SMX / TMP or TMP?

A: Three days.

1. Q: When is Fosfomycin Tromethamine used?

A: As a single dose for acute uncomplicated UTIs.

1. Q: What line of treatment are the Fluoroquinolone in the treatment of UTIs?

A: Second line (ie. Ciprofloxacin)

1. Q: Why?

A: Concerns over cost and developing bacterial resistance.

1. Q: Are Fluoroquinolones dosed for one or more days?

A: More than one day, usually 3.

1. Q: What are Fluoroquinolones used to treat?

A: Complicated UTIs.

1. Q: Who is not to receive Fluoroquinolone antibiotics?

A: Pregnant women and children

1. Q: Why?

A: Potential for adverse effects on developing cartilage.

Kidney Disease

1. Q: What action does Nitrofuratoin have? A: Nitrofuratoin is a urinary antiseptic
2. Q: Nitrofuratoin is contraindicated for what kidney conditions?

A: 1. Pyelonephritis 2. Renal failure

1. Q: What health problems may be caused by Nitrofuratoin?

A: 1. Pulmonary Toxicity 2. Hepatic Toxicity

1. Q: What are the Aminoglycosides the treatment of choice for?

A: 1. Acute pyelonephritis requiring parenteral therapy.

 2. Most gram negative organisms

General

1. Q: Amoxicillin is less effective or more effective than SMX / TMP?

A: 20% less effective

1. Q: What organisms are resistant to Amoxicillin? A: E.coli
2. Q: What organisms are affected by Amoxicillin?

A: 1. Streptococci 2. Enterococci

 3. Pasteurella multiceda when combined with Clavulanic Acid.

1. Q: What are the antibiotics used to treat skin and soft tissue infections?

A: 1. Cloxacillin / Cephalexin

 2. If Penicillin allergic then use Erythromycin or Clindamycin.

 3. Doxycycline, but not in children.

1. Q: What antibiotics are used to treat Otitis Media?

A: Amoxicillin, with Clavulanate if needed.

1. Q: What antibiotics are used to treat Acute Bronchitis? A: None
2. Q: What antibiotics are used to treat Strep Throat (GABHS)?

A: 1. Penicillin 2. Amoxicillin 3. Clindamycin

4. Macrolides: Erythromycin or Clarithromycin, and Azithromycin.

1. Q: What antibiotics are used to treat Acute Sinusitis?

A: 1. Amoxicillin 2. Amoxicillin with Clavulanate.

1. Q: What antibiotics are used to treat Community Acquired Pneumonia (CAP)?

A: 1. Erythromycin 2. Azithromycin

 3. Clarithromycin 4. Doxycycline