

# Drug Used in UTI and STD



Website



Videos

## DRUGS USED IN URINARY TRACT INFECTION

**Urinary Antiseptics**:- These are the oral AMAs which attain antibacterial concentration in urine only, with no any systemic antibacterial effects.

# They concentrated in renal tubules & act locally, so called as **Urinary Antiseptics**, and used for Lower UTI (Nitrofurantoin, Methenamine)

# Urinary Analgesic - "Phenazopyridine"

# Empirical AMAs Oral Dose (3-5 days) for Acute UTI

1. Ciprofloxacin → 250-500 mg/12h

2. Ofloxacin → 200-400 mg/12h

3. Cotrimoxazole → 960 mg/12h

4. Cephalexin → 250-500 mg/6h

5. Cefpodoxime → 200 mg/12h

6. Amoxicillin + Clavulanic acid (500+125 mg/8h)

\* All these AMAs also used for pyelonephritis (2 weeks)

7. Nitrofurantoin - 50mg/8h or 100mg/12h - 5-7 days

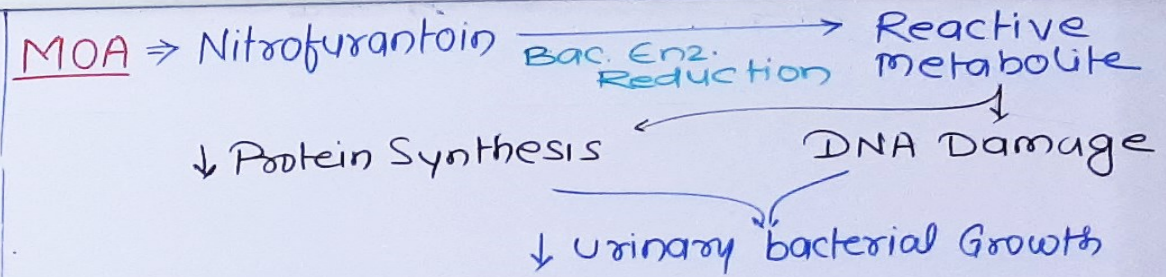
**Infective Agent** → G(-) bac, Coliform, E. coli

**Site** → Kidney, Bladder, ureter, urethra

### "NITROFURANTOIN PHARMACOLOGY"

# Bacteriostatic at low & Bacteriocidal at high conc.

# Effective against - E. coli, & G(-) bacteria



**PKinetic** - Well absorbed orally, Metabolized in liver & approx half excreted through urine in unchanged form.  $t_{1/2}$  = 30-60 min.

**Interaction** - # It antagonizes the antibacterial effect of Naladixic acid

# Probenecid - ↓ tubular secretion → ↓ Therapeutic conc at urine

**Contraindicated** - Renal Failure & Pregnancy

**ADR**: - # GI Intolerance - Nausea, Epigastric pain

# Acute React<sup>n</sup> - Fever, chills, leucopenia

# Peripheral Neuritis in long term use

# Haemolysis in G6PD deficient patient

# Liver damage & Pulmonary react<sup>n</sup> with fibrosis

**Use** - Uncomplicated Acute/Lower UTI

## DRUGS USED IN URINARY TRACT INFECTION

### METHENAMINE / HEXAMINE

→ Urinary Antiseptics = Local Action at Urinary System

MOA - Hexamethylene-tetramine (Inactive)

↓ Decompose in acidic  
Urine  
Aldehyde Metabolite

↓  
Anti Bacterial Action (E. coli, etc)

- # It has not any antibac. action in blood & Tissue including Kidney Parenchymal Cell.
- # Acidic urine is essential for activity ( $pH < 5.5$ ) that is achieved by administration of organic  $\bar{a}$ , which excreted as, - mandelic  $\bar{a}$ , Ascorbic  $\bar{a}$ , or hippuric acid.
- # Methenamine mandelate (enteric coated tablet)  
Dose - 1g TDS/QDS with fluid restriction (1-1.5L)
- ADR - # Gastritis (due to release of formaldehyde in stomach)
  - # chemical cystitis and haematuria occurs during
  - Chronic uses at high dose
  - # CNS disturbance occasionally

Uses - # Acute/lower UTI or for catheterization prophylaxis

### URINARY ANALGESIC

PHENAZOPYRIDINE - Orange dye having urinary analgesia & relief of burning sensation, dysuria, urgency due to cystitis. "No Antibacterial Action"

### FAVOURABLE URIN PH For AMAs

- # Acidic - Nitrofurantoin, Methenamine, Tetracyclines, cloxacillin
- # BASE - Cotrimoxazole, Aminoglycosides, Cephalosporins, Fluoroquinolones
- # pH Immateral - chloramphenicol, Ampicillin

