

## ERYTHROLET, ERYTHROTAB

### Suspension & Tablets

#### Composition

##### Erythrolet 200 Suspension

Each teaspoonful (5 ml) contains Erythromycin (as ethylsuccinate) 200 mg.

##### Erythrotab 250 Tablets

Each Tablet contains Erythromycin (as stearate) 250 mg.

#### Action

Erythromycin is a macrolide antibiotic and inhibits bacterial protein synthesis by binding to the 50S ribosomal subunit. It may be bactericidal or bacteriostatic depending on the organism and the concentration

Erythromycin is virtually devoid of nephrotoxic, hepatotoxic, neurotoxic or photosensitivity reactions.

Erythromycin is active against the following microorganisms:

- Streptococcus Pyogenes (group A  $\beta$ -hemolytic streptococcus)
- Alpha-hemolytic streptococci (viridans group)
- *Staphylococcus aureus*
- *Streptococcus pneumoniae* (Diplococcus pneumoniae) & *Mycoplasma pneumoniae*
- *Haemophilus influenza*
- *Treponema pallidum*
- *Corynebacterium diphtheriae*
- *Corynebacterium minutissimum*
- *Listeria monocytogenes*
- *Neisseria gonorrhoea*
- *Chlamydia trachomatis*
- *Nocardia*
- *Campylobacter jejuni*
- *Bordetella pertussis*
- *Legionella pneumophila*
- *Entameba histolytica*
- *Ureaplasma urealyticum*.

Erythromycin is particularly active against Gram-positive organisms. Consequently, the problem of overgrowth of non-susceptible organisms is of very low incidence. Erythromycin is a suitable alternative to penicillins in the treatment and prophylaxis of infections due to Gram-positive cocci, especially streptococci, particularly in patients for whom penicillins are contraindicated.

#### Pharmacokinetics

Orally administered erythromycin is readily and reliably absorbed. Optimal serum levels of erythromycin are reached when it is taken in the fasting state or immediately before meals.

Erythromycin diffuses readily into most body fluids. Only low concentrations are normally achieved in the spinal fluid but passage of erythromycin across the blood-brain barrier increases in meningitis. In the presence of normal hepatic function, erythromycin is concentrated in the liver and excreted in the bile; the effect of hepatic dysfunction on excretion of erythromycin by the liver into the bile is unknown.

In patients with liver disease, the half-life has been shown to be significantly increased but this is of little clinical significance.

Less than 5% of the orally administered dose of erythromycin is excreted in active form in the urine.

#### Indications

Treatment of the following infections, when caused by susceptible organisms:

- Upper and lower respiratory tract infections.
- Skin and soft tissue infections.
- Conjunctivitis of the newborn caused by *Chlamydia trachomatis*.
- Urogenital infections caused by *Chlamydia trachomatis*.
- Enteric infections caused by *Campylobacter jejuni*
- Venereal diseases (as an alternative regimen to penicillins and tetracyclines).
- Intestinal amebiasis.
- Legionnaires' disease.
- Long-term prophylaxis in rheumatic fever.
- Short-term prophylaxis against Bacterial endocarditis in patients hypersensitive to penicillin who have congenital heart disease, or rheumatic or other acquired valvular heart disease, when undergoing dental procedures and surgical procedures of the upper respiratory tract.

### **Contraindications**

- Known hypersensitivity to the drug.
- Patients receiving terfenadine or astemizole.
- Breastfeeding .

### **Warnings**

#### **Pregnancy**

##### *Category B*

Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women.

#### **Nursing Mothers**

Erythromycin is excreted in breast milk. Mothers using this medication should not nurse.

### **Adverse Reactions**

Gastrointestinal discomfort and abdominal cramping may occur, and is dose-related. Infrequently, nausea, vomiting and diarrhea may occur. Allergic reactions such as urticaria and mild skin eruptions, cholestatic jaundice, oral candidiasis (following prolonged treatment) and anaphylaxis, have occurred. There have been isolated reports of reversible hearing loss, occurring mainly in patients with renal insufficiency or receiving high doses of erythromycin.

### **Precautions**

Since principally the liver excretes erythromycin, caution should be exercised in administering the antibiotic to patients with impaired hepatic function. Liver function test should be performed when large doses of erythromycin are administered.

Prolonged use may result in overgrowth of non-susceptible bacteria or fungi. Should superinfection occur, the drug should be discontinued and/or appropriate therapy instituted. In the treatment of streptococcal infections, a therapeutic dosage of erythromycin should be administered for at least 10 days.

### **Drug Interactions**

#### *Erythromycin/ Oral Anticoagulants*

Concurrent use may increase the pharmacological effects of oral anticoagulants, requiring a lower dose of anticoagulant.

#### *Erythromycin/ xanthines*

Concurrent use may decrease theophylline hepatic clearance, resulting in increased serum theophylline levels and toxicity. Dosage adjustments may be necessary during and after therapy with erythromycin.

#### *Erythromycin/ Penicillins*

Since bacteriostatic drugs may interfere with the bactericidal effect of penicillins in the treatment of meningitis or other situations where a rapid bactericidal effect is necessary, it is best to avoid concurrent therapy.

#### *Erythromycin/ Carbamazepine*

Concurrent administration may increase serum levels of carbamazepine by inhibition of hepatic metabolism.

#### *Erythromycin/ Digoxin*

Concomitant administration of digoxin and erythromycin may produce elevated digoxin levels via increased bioavailability in a small subset of patients (<10%) who metabolize significant amounts of digoxin in the gut. Therapeutic and toxic effects of digoxin may be increased.

#### *Erythromycin/Lovastatin*

Rhabdomyolysis, with or without renal impairment, has been reported in seriously ill patients receiving erythromycin concomitantly with lovastatin. Therefore, patients receiving concomitant lovastatin and erythromycin should be carefully monitored.

#### *Erythromycin/ Terfenadine*

Concomitant administration may cause an increase in terfenadine plasma levels, due to the inhibition of terfenadine metabolism by erythromycin (or other macrolide antibiotics). High plasma concentrations of terfenadine have been reported to prolong the QT interval and cause life-threatening cardiac arrhythmias. Therefore, such combination should be avoided.

#### *Erythromycin/ Astemizole*

Erythromycin is known to impair the cytochrome P450 enzyme system that also influences astemizole metabolism. There have been two reports to date of syncope with torsade de pointes, requiring hospitalization in patients taking combinations of astemizole 10 mg daily with erythromycin. In each case, the QT intervals were prolonged beyond 650 milliseconds at the time of the event. Therefore, concomitant administration of astemizole with erythromycin is contraindicated.

#### *Erythromycin/ Disopyramide*

Initiation of erythromycin therapy in several patients receiving disopyramide reportedly has been associated with elevated serum disopyramide concentrations, QT interval prolongation, and polymorphic ventricular tachycardia.

#### *Erythromycin/ Cyclosporine*

Concomitant administration of erythromycin and cyclosporine has been reported to increase cyclosporine plasma concentrations and may increase the risk of nephrotoxicity.

#### *Erythromycin/ Chloramphenicol/ Lincomycins*

Chloramphenicol or lincomycins may be displaced from or prevented from binding to 50S subunits of bacterial ribosomes by erythromycin, thus antagonizing the effects of chloramphenicol and lincomycins. Concurrent use, therefore, is not recommended.

#### *Erythromycin/ Hepatotoxic Medications*

Concomitant use of erythromycin with hepatotoxic medications may increase the potential for hepatotoxicity of these medications.

### **Dosage and Administration**

Erythrolet tablets should be taken on an empty stomach. Erythrolet suspension may be taken without regard to meals. In the treatment of streptococcal infections, a therapeutic dosage should be administered for at least 10 days.

### **Treatment of Infections**

The following are the recommended usual dosages. In more severe infections, the dosage may be doubled. All doses are expressed in terms of erythromycin base.

#### *Adults*

The usual adult dosage is 250 mg (as stearate) or 400 mg (as ethylsuccinate), every 6 hours. This may be increased up to 4 grams/day, according to the severity of infection. If a twice-daily dosage is desired, 1/2 of the total daily dose may be given every 12 hours. However, twice-daily dosage is not recommended when doses higher than 1 gram daily are administered. Doses may also be given 3 times daily, by administering 1/3 of the total daily dose every 8 hours.

#### *Children*

Age, weight and severity of the infection are important factors in determining the proper dosage. In mild to moderate infections, the usual dosage of Erythromycin (as ethylsuccinate) for children is 30-50 mg/kg body weight/day, in equally divided doses every 6 hours. For more severe infections, this dosage may be doubled. If a twice-daily dosage is desired, 1/2 of the total daily dose may be given every 12 hours. Doses may also be given 3 times daily, by administering 1/3 of the total daily dose every 8 hours.

The following are dosage recommendations for specific indications:

#### **Chlamydia trachomatis Infections**

##### *Neonatal Conjunctivitis*

50 mg/kg body weight/day (as ethylsuccinate) in 4 divided doses, for at least 2 weeks.

##### *Infant Pneumonia*

50 mg/kg body weight/day (as ethylsuccinate) in 4 divided doses, for at least 3 weeks.

##### *Urogenital Infections during Pregnancy*

500 mg (as stearate) 4 times a day on an empty stomach, for at least 7 days. For women who cannot tolerate this regimen, a decreased dose of 250 mg (as stearate) 4 times a day, should be used for at least 14 days.

#### **Other Chlamydia trachomatis Infections**

For the treatment of adults with uncomplicated urethral, endocervical, or rectal infections caused by Chlamydia trachomatis, in whom tetracyclines are contraindicated or not tolerated, the recommended dosage is 500 mg, (as stearate) 4 times a day, for at least 7 days.

#### **Legionnaires' disease**

1-4 grams/day (as stearate) in divided doses.

#### **Pertussis**

40-50 mg/kg body weight/day (as ethylsuccinate) in divided doses for 5-14 days.

#### **Intestinal Amebiasis**

The standard dosage should be administered for a period of 10-14 days.

#### **Prophylaxis of Infections**

##### *Long term Prophylaxis*

In continuous prophylaxis against recurrences of streptococcal infections in persons with a history of rheumatic heart disease, the usual dosage is 250 mg (as stearate), or 400 mg (as ethylsuccinate), twice daily.

##### *Short term Prophylaxis*

For prophylaxis against bacterial endocarditis in patients with congenital heart disease, or rheumatic or other acquired valvular heart disease when undergoing dental procedures or surgical procedures of the upper respiratory tract, 1 gram as stearate, or 1.6 gram as ethylsuccinate (20 mg/kg body weight for children, as ethylsuccinate) should be administered orally, 1/2 - 2 hours before the procedure.

This should be followed by 500 mg as stearate, or 800 mg as ethylsuccinate (10 mg/kg body weight for children, as ethylsuccinate) administered orally every 6 hours, for 8 doses.

### **Pharmaceutical Precautions**

Reconstituted Erythrolet suspensions are stable for 7 days when kept in a refrigerator.

### **Presentation**

#### **Erythrolet 200 mg Suspension**

Powder for the preparation of 60, 100 ml suspension

#### **Erythrotab 250 Tablets**

Box of 24 tablets.