



**Zimax<sup>®</sup>**  
Azithromycin  
**Macrolide**

### COMPOSITION

- Zimax<sup>®</sup> 500 Tablet : Each film coated tablet contains Azithromycin USP 500 mg as Azithromycin Dihydrate USP.
- Zimax<sup>®</sup> Capsule : Each capsule contains Azithromycin USP 250 mg as Azithromycin Dihydrate USP.
- Zimax<sup>®</sup> Dry Powder for Suspension: When reconstituted, each 5 ml suspension contains Azithromycin USP 200 mg as Azithromycin Dihydrate USP.

### PHARMACOLOGY

Zimax<sup>®</sup> (Azithromycin) is an azalide antibiotic, subclass of the macrolide class of antibiotics.

Zimax<sup>®</sup> (Azithromycin) acts by binding to the 50S ribosomal subunit of susceptible organisms and thus interferes with microbial protein synthesis.

Following oral administration in humans, Zimax<sup>®</sup> (Azithromycin) is rapidly absorbed and widely distributed throughout the body ; bioavailability is approximately 37%. The time taken to peak plasma levels is 2-3 hours. However, kinetic studies have shown markedly higher Zimax<sup>®</sup> (Azithromycin) levels in tissue than in plasma or serum indicating that the drug is higher tissue bound, resulting in rapid distribution into tissues and high concentration within cells. Concentrations in target tissues such as lung, tonsil and prostate exceed the MIC<sub>90</sub> for likely pathogens after a single dose of 500 mg.

A large fraction of the absorbed dose of Zimax<sup>®</sup> (Azithromycin) remains unmetabolised. There is some metabolism in the liver mainly by N-demethylation, the metabolite being excreted in the bile.

The terminal elimination phase of Zimax<sup>®</sup> (Azithromycin) from the serum is due to hepatic metabolism, biliary excretion and transintestinal passage. The half-life of this phase is approximately 40-60 hours. The major route of elimination is biliary excretion of the unchanged compound. Transintestinal excretion of the unchanged drug is also an important route of elimination. Only a small amount of the dose is excreted unchanged in the urine.

Zimax<sup>®</sup> (Azithromycin) demonstrated activity in vitro, against a wide range of Gram-positive and Gram-negative bacteria including: *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Streptococcus pyogenes* (Group A) and

MACROLIDES

## Zimax®

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other Streptococcal species ; *Haemophilus influenzae* and parainfluenzae ; *Moraxella catarrhalis* ; anaerobes including *Bacteroides fragilis*, *Escherichia coli*, *Bordetella pertussis*, *Bordetella parapertussis*, *Borrelia burgdorferi*, *Haemophilus ducreyi*, *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. Zimax® (Azithromycin) also demonstrates activity in vitro against *Legionella pneumophila*, *Mycoplasma pneumoniae* and *hominis*; *Campylobacter* spp., *Toxoplasma gondii* and *Treponema pallidum*.

### INDICATION

Zimax® (Azithromycin) is indicated for infections (caused by susceptible organisms) in lower respiratory tract infections including bronchitis and pneumonia, in upper respiratory tract infections including sinusitis and pharyngitis/tonsillitis, in otitis media, and in skin and soft tissue infections.

In sexually transmitted diseases in men and women, Zimax® (Azithromycin) is indicated in the treatment of non-gonococcal urethritis and cervicitis due to *Chlamydia trachomatis*.

### DOSAGE AND ADMINISTRATION

Zimax® capsule and suspension should be taken at least 1 hour before or 2 hour after meal. However, Zimax® 500 tablet can be taken with or without food. To reconstitute Zimax® suspension, add 10 ml or 2 spoonfuls of just boiled and cooled water to the content of the bottle and shake well to mix uniformly.

**Adults:** For lower respiratory tract infections including bronchitis and pneumonia, upper respiratory tract infections including sinusitis and pharyngitis/tonsillitis, otitis media and skin and soft tissue infections, the total dose of Zimax® is 1.5 gm given as 500 mg once daily for 3 days. An alternative to this dosage schedule is that 500 mg once daily on day 1, followed by 250 mg once daily for next 4 days.

For sexually transmitted diseases caused by *Chlamydia trachomatis*, the dose of Zimax® is 1 gm given as a single dose. Alternatively, 500 mg once daily on day 1, followed by 250 mg once daily for next 2 days may also be given.

**Use in the elderly:** Normal adult dosage is recommended. **Children:** The dose of Zimax® in children over 6 months of age is 10 mg/kg body weight once daily for 3 days. Alternatively, 10 mg/kg on day 1, followed by 5 mg/kg for next 4 days is also recommended. There is no information on use of

Azithromycin on children under 6 months of age. For children with body weight 15-25 kg (3-7 years), the dose is 200 mg once daily for 3 days; for body weight 26-35 kg (8-11 years), the dose is 300 mg once daily for 3 days; for body weight 36-45 kg (12-14 years), the dose is 400 mg once daily for 3 days. For body weights over 45 kg, normal adult dosage is recommended.

**CONTRAINDICATION AND PRECAUTION**

Azithromycin is contra-indicated in patients with a known hypersensitivity to azithromycin or any of the macrolide antibiotics. Because of the theoretical possibility of ergotism, azithromycin and ergot derivatives should not be co-administered. As the liver is the principal route of excretion of azithromycin it should not be used in patients with hepatic disease.

Avoid concomitant administration with terfenadine or astemizole. Precaution should be taken in patients with more severe renal impairment.

**SIDE EFFECT**

Zimax® (Azithromycin) is well tolerated with a low incidence of side-effects. The side-effects include nausea, vomiting, abdominal discomfort (pain/cramps), flatulence, diarrhoea, headache, dizziness, and skin rashes and are reversible upon discontinuation of therapy.

Reversible elevations in liver transaminases have been observed occasionally. Transient mild reductions in neutrophil counts have occasionally been observed in clinical trials, although causal relationship to azithromycin has not been established.

**DRUG INTERACTION**

*Antacids:* Peak serum levels but not the total extent of absorption are reduced by aluminium - and magnesium - containing antacids in the stomach. Azithromycin should therefore be taken at least 1 hour before or 2 hours after taking these antacids.

*Ergot Derivatives:* Because of the theoretical possibility of ergotism, concomitant administration of ergot derivatives and azithromycin should be avoided.

*Digoxin & Cyclosporin:* Macrolides have been known to increase the plasma concentration of Digoxin & Cyclosporin and so caution should be exercised while co-administration is necessary.

*Anti-Histamines:* A potentially life threatening interaction between erythromycin and terfenadine or astemizole have been reported. Although

## Zimax®

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such an interaction with azithromycin is not established yet and undergoing clinical study, so it is wise to avoid concomitant use of azithromycin and terfenadine or astemizole.

There have been no pharmacokinetic drug interactions between azithromycin and warfarin, theophylline, carbamazepine, methylprednisolone and cimetidine.

In clinical trials, around 45% patients receiving azithromycin also received other drugs concomitantly, e.g. bronchodilators, analgesics, corticosteroids, diuretics, anxiolytics and antiarthritic drugs. No drug interaction problems were encountered.

### USE IN PREGNANCY AND LACTATION

Recent clinical studies have recommended that azithromycin should be considered for the initial treatment of chlamydial cervicitis in pregnancy. In other infections, azithromycin should be used only when clearly needed.

It is not known whether azithromycin is excreted in breast milk. Exercise caution when administering to a nursing women.

### OVERDOSAGE

There are no data on overdosage with azithromycin. Typical symptoms of overdosage with macrolide antibiotics include hearing loss, severe nausea, vomiting and diarrhoea. Gastric lavage and general supportive measures are indicated.

### STORAGE CONDITION

Zimax® capsules and dry powder for suspension should be stored at room temperature (below 30°C). Any unused portion of reconstituted Zimax® suspension should be discarded after 5 days.

### HOW SUPPLIED

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| Zimax® 500 tablet                | : Box containing 1 x 3 Zimax® film coated tablet in Alu-Alu blister pack.                    |
| Zimax® capsule                   | : Box containing 1 x 6 Zimax® capsule in Alu-Alu blister pack.                               |
| Zimax® Dry Powder for Suspension | : Sealed cap bottle containing Zimax® dry powder for reconstituting 15 ml Zimax® Suspension. |

