Zalpaz 500mg, 1g, 2g
I.M./I.V. Injection
(Cefoperazone Sodium/ Sulbactam Sodium) For Injection

زالپاز ۵۰۰ ملی گرام / ۱ گرام / ۲ گرام
(سیفوپیرازون سوڈیم/سلبیکٹم سوڈیم)
صنعتی (وریدی/عضلاتی) انجکشن

QUALITATIVE AND QUANTITATIVE COMPOSITION

Zalpaz® For Injection 500mg
Each vial contains:
Cefoperazone Sodium eq. to Cefoperazone.....250mg
Sulbactam Sodium eq. to Sulbactam.....250mg
Innovator's Specifications

Zalpaz® For Injection 1g
Each vial contains:
Cefoperazone Sodium eq. to Cefoperazone.....500mg
Sulbactam Sodium eq. to Sulbactam.....500mg
Innovator's Specifications

Zalpaz® For Injection 2g
Cefoperazone Sodium eq. to Cefoperazone.....1g
Sulbactam Sodium eq. to Sulbactam.....1g
Innovator's Specifications

DESCRIPTION

Sulbactam sodium/cefoperazone sodium combination is available as a dry powder for reconstitution in a 1:1 ratio in terms of free SBT/CPZ. Sulbactam sodium is a derivative of the basic penicillin nucleus. Cefoperazone sodium is a semisynthetic broad-spectrum cephalosporin antibiotic for parenteral use only.

CLINICAL PHARMACOLOGY

Mechanism of Action: They are Antibacterial category.
Pharmacodynamic properties: The antibacterial component of sulbactam/cefoperazone is cefoperazone, a third generation cephalosporin, which acts against sensitive organisms during the stage of active multiplication by inhibiting biosynthesis of cell wall mucopeptide. The combination of sulbactam and cefoperazone is active against all organisms sensitive to cefoperazone. Sulbactam/cefoperazone is active in vitro against a wide variety of clinically significant organisms: **Pharmacokinetics:** Approximately 84% of the sulbactam dose and 25% of the cefoperazone dose administered with sulbactam/cefoperazone is excreted by the kidney. Most of the remaining dose of cefoperazone is excreted in the bile. After sulbactam/cefoperazone administration the mean half-life for sulbactam is about 1 hour while that for cefoperazone is 1.7 hours.

INDICATIONS AND USAGE

Mono-therapy: Sulbactam/cefoperazone is indicated for the treatment of the following infections when caused by susceptible organisms: Respiratory Tract Infections (Upper and Lower), Urinary Tract Infections (Upper and Lower), Peritonitis, Cholecystitis, Cholangitis, and Other Intra-Abdominal Infections, Septicemia, Meningitis, Skin and Soft Tissue Infections, Bone and Joint Infections, Pelvic Inflammatory Disease, Endometritis, Gonorrhea, and Other Infections of the Genital Tract.

CONTRAINDICATIONS

Sulbactam/cefoperazone is contraindicated in patients with known allergy to penicillins, sulbactam, cefoperazone or any of the cephalosporins.

INTERACTIONS

Alcohol: A reaction characterized by flushing, sweating, headache, and tachycardia has been reported when alcohol was ingested during and as late as the fifth day after cefoperazone administration.

USE IN SPECIFIC POPULATION

Pregnancy and Lactation: Sulbactam and cefoperazone cross the placental barrier. There are, however, no adequate and well-controlled studies in pregnant women, this drug should be used during pregnancy only if clearly needed. **Usage in Nursing Mothers:** Only small quantities of sulbactam and cefoperazone are excreted in human milk. Although both drugs pass poorly into breast milk of nursing mothers, caution should be exercised when sulbactam/cefoperazone is administered to a nursing mother. **Use in Renal Dysfunction:** Dosage regimens of sulbactam/cefoperazone should be adjusted in patients with marked decrease in renal function. **Use in Hepatic Dysfunction:** Cefoperazone is extensively excreted in bile. Dose modification may be necessary in cases of severe biliary obstruction, or severe hepatic disease.

PRECAUTIONS

Hypersensitivity: Serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported in patients receiving beta-lactam or cephalosporin therapy. **Use in Hepatic Dysfunction:** In patients with hepatic dysfunction and concomitant renal impairment, cefoperazone serum concentrations should be monitored and dosage adjusted as necessary. In these cases, dosage, should not exceed 2 g/day of cefoperazone without close monitoring of serum concentrations. **General:** As with other antibiotics, Vitamin K deficiency has occurred in a few patients treated with cefoperazone. **Clostridium difficile associated diarrhea (CDAD):** It has been reported with use of nearly all antibacterial agents, including sulbactam sodium/cefoperazone sodium, and may range in severity from mild diarrhea to fatal colitis. **Effects on Ability to Drive and Use Machines:** Clinical experience with sulbactam/cefoperazone indicates that it is unlikely to impair a patient's ability to drive or use machinery. **Disulfiram-like reactions:** With alcohol consumption, disulfiram-like reactions occur within 72 hours of cefoperazone administration.

ADVERSE REACTIONS

Sulbactam/cefoperazone is generally well tolerated. The majority of adverse events are of mild or moderate severity and are tolerated with continued treatment. In pooled clinical trial data from comparative and non-comparative studies in approximately 2,500 patients the following was observed. **Gastrointestinal, Dermatologic Reactions, Hematology:** 3.5% (40/1130) and thrombocytopenia 0.8% (11/1414) have occurred, and hypo-prothrombinemia 3.8% (10/262) has been reported. **Laboratory Abnormalities:** 1.2% (12/1040) levels, have been noted. **Side effects:** Headache, diarrhea, fever, injection pain and chills.

DOSAGE AND ADMINISTRATION

Doses should be administered every 12 hours in equally divided doses. In severe or refractory infections, the daily dosage of sulbactam/cefoperazone may be increased up to 8 g of the 1:1 ratio (i.e., 4 g cefoperazone activity). Patients receiving the 1:1 ratio may

require additional cefoperazone administration separately. Dose should be administered every 12 hours in equally divided doses. The recommended maximum daily dosage of sulbactam is 4 g.

Use in Renal Dysfunction: Dosage regimens of sulbactam/cefoperazone should be adjusted in patients with marked decrease in renal function (creatinine clearance of less than 30 ml/min) to compensate for the reduced clearance of sulbactam. Patients with creatinine clearances between 15 and 30mL / min should receive a maximum of 1 g of sulbactam administered every 12 hours (maximum daily dosage of 2 g sulbactam), while patients with creatinine clearances of less than 15 ml/min should receive a maximum of 500 mg of sulbactam every 12 hours (maximum daily dosage of 1 g sulbactam). In severe infections, it may be necessary to administer additional cefoperazone. The pharmacokinetic profile of sulbactam is significantly altered by hemodialysis. The serum half-life of cefoperazone is reduced slightly during hemodialysis. Thus, dosing should be scheduled to follow a dialysis period. **Use in Hepatic Dysfunction:** Cefoperazone is extensively excreted in bile. Dose modification may be necessary in cases of severe biliary obstruction, severe hepatic disease or in cases of renal dysfunction coexistent with either of those conditions. In patients with hepatic dysfunction and concomitant renal impairment, cefoperazone serum concentrations should be monitored and dosage adjusted as necessary. In these cases, dosage should not exceed 2 g/day of cefoperazone without close monitoring of serum concentrations.

Use in Infancy: Sulbactam/cefoperazone has been effectively used in infants. It has not been extensively studied in premature infants or neonates. Therefore, in treating premature infants and neonates potential benefits and possible risks involved should be considered before instituting therapy. Cefoperazone does not displace bilirubin from plasma protein binding sites.

Use in children: Daily dosage recommendations for sulbactam/cefoperazone in children are as follows:

Ratio	SBT/CPZ mg/kg/day	Sulbactam Activity mg/kg/day	Cefoperazone Activity mg/kg/day
1:1	40 – 80	20 – 40	20 – 40

Doses should be administered every 6 to 12 hours in equally divided doses. In serious or refractory infections, these dosages may be increased up to 160 mg/kg/day of the 1:1 ratio. Doses should be administered in two to four equally divided doses. **Use in neonates:** For neonates in the first week of life, the drug should be given every 12 hours. The maximum daily dosage of sulbactam in pediatrics should not exceed 80 mg/kg/day. **Intravenous administration:** For intermittent infusion, each vial of sulbactam/cefoperazone should be reconstituted with the appropriate amount of 5% dextrose in Water, 0.9% Sodium Chloride Injection or Sterile Water for Injection and then diluted to 20 ml with the same solution followed by administration over 15 to 60 minutes. Lactated Ringer's Solution is a suitable vehicle for intravenous infusion, however, not for initial reconstitution. For intravenous injection, each vial should be reconstituted as above and administered over a minimum of 3 minutes. **Dilution:**

Reconstitution: Sulbactam/Cefoperazone is available in 0.5g 1.0g & 2.0g strength vials.

Total dosage(gm)	Equivalent Dosage of Sulbactam+Cefoperazone(gm)	Volume of Diluent (mL)	Maximum final concentration (mg/ml)
0.5	0.25+0.25	1.7	125+125
1	0.5+0.5	3.4	125+125
2	1.0+1.0	6.7	125+125

Sulbactam/cefoperazone has been shown to be compatible with water for injection,5% dextrose, normal saline,5% dextrose in 0.225% saline and 5% dextrose in normal saline at concentrations of 10 mg cefoperazone and 5mg sulbactam per ml and upto 250mg cefoperazone and 125mg sulbactam per ml. **Incompatibilities: Lactated Ringer's Solution:** Initial reconstitution with Lactated Ringer's Solution should be avoided since this mixture has been shown to be incompatible .Sterile water for injection should be used for reconstitution. However, a two-step dilution process involving initial reconstitution in water for injection will result in a compatible mixture when further diluted with Lactated Ringer's Solution to a sulbactam concentration of 5mg/ml (use 2ml initial dilution in 50ml or 4ml initial dilution in 100ml Lactated Ringer's Solution). **Lidocaine:** For a initial reconstitution with 2% lidocaine HCl solution should be avoided since this mixture has been shown to be incompatible. Sterile water for injection should be used for reconstitution. For a concentration of cefoperazone of 250mg/ml or larger, a two-step dilution is required using sterile water for injection further diluted with 2% lidocaine to yield solutions containing upto 250mg cefoperazone and 125mg sulbactam per ml in approximately a 0.5% lidocaine HCl solution. **Aminoglycosides:** Solutions of sulbactam/cefoperazone and aminoglycosides should not be directly mixed, since there is a physical incompatibility between them. If combination therapy with sulbactam/cefoperazone and an aminoglycoside is contemplated, this can be accomplished by sequential intermittent intravenous infusion provided that separate secondary intravenous tubing is used, and that the primary intravenous tubing is adequately irrigated with an approved diluent between doses. It is also suggested that doses of sulbactam/cefoperazone be administered throughout the day at times as far removed from administration of the aminoglycoside as possible.

Overdosage: Limited information is available on the acute toxicity of cefoperazone sodium and sulbactam sodium in humans. Overdosage of the drug would be expected to produce manifestations that are principally extensions of the adverse reactions reported with the drug. The fact that high CSF concentrations of β-lactam antibiotics may cause neurologic effects, including seizures, should be considered.

INSTRUCTIONS:

Dosage as directed by the physician. **Prior Reconstitution:** Store at 25°C, excursions permitted to 15°C-30°C. Protect from light and moisture. **After Reconstitution:** Reconstituted solution is stable for 24 hours at room temperature. Injection should not be used if container is leaking, solution is cloudy or it contains un-dissolved particles. Prepared solution must be used immediately. Any unused solution should be discarded. Keep all medicines out of the reach of children.

PRESENTATION

Zalpaz® (Cefoperazone Sodium / Sulbactam Sodium) for Injection 500mg (Innovator's Specs.) is available as 1 glass vial packed with 1 ampoule of 5mL Water for Injection.

Zalpaz® (Cefoperazone Sodium / Sulbactam Sodium) for Injection 1g (Innovator's Specs.) is available as 1 glass vial packed with 1 ampoule of 5mL Water for Injection.

Zalpaz® (Cefoperazone Sodium / Sulbactam Sodium) for Injection 2g (Innovator's Specs.) is available as 1 glass vial packed with 1 ampoule of 10mL Water for Injection.

خوراک: ڈاکٹر کی ہدایت کے مطابق استعمال کریں۔ ہدایات: ۲۵°ڈگری سینٹی گریڈ پر رکھیں محفوظ رکھنے کی حد ۱۵ سے ۳۰°ڈگری سینٹی گریڈ ہے۔
روشنی اور نمی سے محفوظ رکھیں۔ دوا کی تیاری کے بعد ۲۴ گھنٹے کمرے کے درجہ حرارت پر محفوظ رکھا جا سکتا ہے۔
انجکشن کے لیک ہونے، دھندلا ہونے یا اس میں کوئی غیر حل پذیر ہونے تھرآنے کی صورت میں ہرگز استعمال نہ کریں۔
غیر استعمال شدہ سلوشن کو ضائع کر دیں۔ تمام دوائیں بچوں کی پہنچ سے دور رکھیں۔

For detailed information please contact.

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