Revised: May, 2023

Rx only

CEFUROXIME-ZHIJUN 750MG

Cefuroxime Sodium Powder for Injection

DESCRIPTION

CEFUROXIME-ZHIJUN in sterile form is supplied in vials as white or almost white powder equivalent to 750 mg of cefuroxime (as cefuroxime sodium). The reconstituted suspension or solution may range in color from light yellow to amber, depending on the concentration and diluent used. Variations in the intensity of this color do not indicate any change in either efficacy or safety of CEFUROXIME-ZHIJUN.

PHARMACODYNAMICS

CEFUROXIME-ZHIJUN is a bactericidal cephalosporin antibiotic which is resistant to most β-lactamases and is active against a wide range of gram-positive and gram-negative organisms.

Microbiology: CEFUROXIME-ZHIJUN is a well-characterised and effective antibacterial agent which has bactericidal activity against a wide range of common pathogens, including β-lactamase-producing strains. CEFUROXIME-ZHIJUN has good stability to bacterial β-lactamase, and consequently is active against many ampicillin-resistant or amoxycillin-resistant strains.

The bactericidal action of cefuroxime results from inhibition of cell wall synthesis by binding to essential target proteins.

Cefuroxime is usually active against the following organisms *in vitro*: Gram-Negative Aerobes: *Escherichia coli, Klebsiella* sp, *Proteus mirabilis, Providencia* sp, *Proteus rettgeri, Haemophilus influenzae* (including ampicillin-resistant strains), *Haemophilus parainfluenzae* (including ampicillin-resistant strains), *Moraxella (Branhamella) catarrhalis, Neisseria gonorrhoeae* (including penicillinase- and nonpenicillinase-producing strains), *Neisseria meningitidis, Salmonellae* sp.

Gram-Positive Aerobes: *Staphylococcus aureus* and *Staphylococcus epidermidis* (including penicillinase-producing strains but excluding methicillin-resistant strains), *Streptococcus pyogenes* (and other β-haemolytic streptococci), *Streptococcus pneumoniae*, Streptococcus Group B (*Streptococcus agalactiae*), *Streptococcus mitis* (viridans group), *Bordetella pertussis.*

Anaerobes: Gram-positive and gram-negative cocci (including *Peptococcus* and *Peptostreptococcus* spp), gram-positive bacilli (including most *Clostridium* sp) and gram-negative bacilli (including *Bacteroides* and *Fusobacterium* spp), *Propionibacterium* sp.

Other Organisms: *Borrelia burgdorferi.*

The following organisms are not susceptible to CEFUROXIME-ZHIJUN: *Clostridium difficile, Pseudomonas* and *Campylobacter* spp, *Acinetobacter calcoaceticus, Listeria monocytogenes*, methicillin-resistant strains of *Staphylococcus aureus*, methicillin-resistant strains of *Staphylococcus epidermidis, Legionella* sp.

Some strains of the following genera are not susceptible to CEFUROXIME-ZHIJUN: *Enterococcus (Streptococcus) faecalis, Morganella morganii, Proteus vulgaris, Enterobacter, Citrobacter* and *Serratia* spp, *Bacteroides fragilis*.

In vitro, the activities of CEFUROXIME-ZHIJUN and aminoglycoside antibiotics in combination have been shown to be at least additive with occasional evidence of synergy.

PHARMACOKINETICS

Peak levels of CEFUROXIME-ZHIJUN are achieved within 30-45 min after IM administration. The serum half-life after either IM or IV injection is approximately 70 min. In the first weeks of life, the serum half-life of cefuroxime can be 3-5 times that in the adult.

Concurrent administration of probenecid prolongs the excretion of the antibiotic and produces an elevated peak serum level.

Protein binding has been variously stated as 33-50% depending on the methodology used.

There is an almost complete recovery (85-90%) of unchanged cefuroxime in the urine within 24 hrs of administration. The major part is excreted in the first 6 hrs. CEFUROXIME-ZHIJUN is not metabolised and is excreted by glomerular filtration and tubular secretion.

Serum levels of cefuroxime are reduced by dialysis.

Concentrations of CEFUROXIME-ZHIJUN in excess of the minimum inhibitory levels for common pathogens can be achieved in bone, synovial fluid and aqueous humour. CEFUROXIME-ZHIJUN passes the blood-brain barrier when the meninges are inflamed.

INDICATIONS

Treatment of infections before the infecting organism has been identified or when caused by sensitive bacteria.

Respiratory tract infections eg, acute and chronic bronchitis, infected bronchiectasis, bacterial pneumonia, lung abscess and postoperative chest infections.

Ear, nose and throat infections eg, sinusitis, tonsillitis, pharyngitis and otitis media.

Urinary tract infections eg, acute and chronic pyelonephritis, cystitis and asymptomatic bacteriuria.

Soft-tissue infections eg, cellulitis, erysipelas and wound infections.

Bone and joint infections eg, osteomyelitis and septic arthritis.

Obstetric and gynaecological infections, pelvic inflammatory diseases.

Gonorrhoea particularly when penicillin is unsuitable.

Other infections including septicaemia, meningitis and peritonitis.

Prophylaxis against infection in abdominal, pelvic, orthopaedic, cardiac, pulmonary, oesophageal and vascular surgery where there is increased risk from infection.

Usually CEFUROXIME-ZHIJUN will be effective alone, but when appropriate, it may be used in combination with an aminoglycoside antibiotic, or in conjunction with metronidazole (orally or by suppository or injection), especially for prophylaxis in colonic or gynaecological surgery.

Cefuroxime is also available as the axetil ester (CEFUROXIME AXETIL-ZHIJUN) for oral administration. This permits the use of sequential therapy with the same antibiotic, when a change from parenteral to oral therapy is clinically indicated.

Where appropriate, CEFUROXIME-ZHIJUN is effective when used prior to oral therapy with CEFUROXIME AXETIL-ZHIJUN (cefuroxime axetil) in the treatment of pneumonia and acute exacerbations of chronic bronchitis.

DOSAGE & ADMINISTRATION

CEFUROXIME-ZHIJUN is for IV and/or IM administration.

General Dosage Recommendations: ***Adults:*** Many infections will respond to 750 mg 3 times a day by IM or IV injection.

For more severe infections, the dose should be increased to 1.5 g IV 3 times a day.

The frequency of administration may be increased to 6-hourly if necessary, giving total daily doses of 3-6 g.

Where clinically indicated, some infections respond to 750 mg or 1.5 g IV or IM twice a day followed by oral therapy with CEFUROXIME AXETIL-ZHIJUN (cefuroxime axetil tablets).

Infants and Children: 30-100 mg/kg/day given as 3 or 4 divided doses.

A dose of 60 mg/kg/day will be appropriate for most infections.

Neonates: 30-100 mg/kg/day given as 2 or 3 divided doses.

Gonorrhoea: 1.5 g should be given as a single dose (2 x 750 mg IM injections with different sites eg, each buttock).

Meningitis: CEFUROXIME-ZHIJUN is suitable for therapy of bacterial meningitis due to sensitive strains. ***Adults:*** 3 g IV every 8 hrs. ***Infants and Children:*** 150-250 mg/kg/day IV in 3 or 4 divided doses. ***Neonates:*** The dosage should be 100 mg/kg/day IV.

Prophylaxis: The usual dose is 1.5 g IV with induction of anaesthesia for abdominal, pelvic and orthopaedic operations. This may be supplemented with two 750-mg IM doses 8 and 16 hrs later.

In cardiac, pulmonary, oesophageal and vascular operations, the usual dose is 1.5 g IV with induction of anaesthesia continuing with 750 mg IM 3 times a day for a further 24-48 hrs.

In total joint replacement, cefuroxime 1.5 g powder may be mixed dry with each pack of methyl methacrylate cement polymer before adding the liquid monomer.

Sequential Therapy: **Pneumonia:** 1.5 g IV or IM twice a day for 48-72 hrs, followed by CEFUROXIME AXETIL-ZHIJUN (cefuroxime axetil tablets) 500 mg twice a day oral therapy for 7-10 days.

Acute Exacerbations of Chronic Bronchitis: 750 mg IV or IM twice a day for 48-72 hrs, followed by CEFUROXIME AXETIL-ZHIJUN (cefuroxime axetil tablets) 500 mg twice a day oral therapy for 5-10 days.

Duration of both parenteral and oral therapy is determined by the severity of the infection and the clinical status of the patient.

Impaired Renal Function: CEFUROXIME-ZHIJUN is excreted by the kidneys. Therefore, as with all such antibiotics, in patients with markedly impaired renal function, it is recommended that the dosage of CEFUROXIME-ZHIJUN should be reduced to compensate for its slower excretion.

It is not necessary to reduce the standard dose (750 mg to 1.5 g 3 times a day) until the creatinine clearance falls to ≤20 mL/min.

In adults with marked impairment (creatinine clearance 10-20 mL/min), 750 mg twice daily is recommended, and with severe impairment (creatinine clearance <10 mL/min), 750 mg once daily is adequate.

For patients on haemodialysis, a further 750-mg dose should be given IV or IM at the end of each dialysis. In addition to parenteral use, CEFUROXIME-ZHIJUN can be incorporated into the peritoneal dialysis fluid (usually 250 mg for every 2 L of dialysis fluid).

For patients in renal failure on continuous arteriovenous haemodialysis or high-flux haemofiltration in intensive therapy units, a suitable dosage is 750 mg twice daily. For low-flux haemofiltration, follow the dosage recommended under impaired renal function.

Cefuroxime is also available as the axetil ester for oral administration. This permits parenteral therapy with cefuroxime to be followed by oral therapy in situations where a change from parenteral to oral is clinically indicated.

OVERDOSAGE

Overdosage of cephalosporins can cause cerebral irritation leading to convulsions. Serum levels of cefuroxime are reduced by haemodialysis or peritoneal dialysis.

CONTRAINDICATIONS

Hypersensitivity to cephalosporins.

WARNINGS AND PRECAUTIONS

Serious and occasionally fatal hypersensitivity reactions (including anaphylactoid and severe cutaneous adverse reactions) have been reported in patients receiving therapy with beta-lactams. Before initiating therapy with CEFUROXIME-ZHIJUN, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, carbapenems or other beta-lactam agents. If an allergic reaction occurs, CEFUROXIME-ZHIJUN must be discontinued immediately and appropriate alternative therapy instituted.

Special care is indicated in patients who have experienced an allergic reaction to penicillins or other β-lactams. Cephalosporins at high dosage should be given with caution to patients receiving concurrent treatment with potent diuretics eg, frusemide, or aminoglycosides, as renal impairment has been reported with these combinations. Renal function should be monitored in these patients, the elderly, and those with preexisting renal impairment (see **Dosage & Administration**).

As with other therapeutic regimens used in the treatment of meningitis, mild-to-moderate hearing loss has been reported in a few paediatric patients treated with cefuroxime sodium. Persistence of positive CSF cultures of Haemophilus influenzae at 18-36 hrs has also been noted with cefuroxime sodium injection, as well as with other antibiotic therapies; however, the clinical relevance of this is unknown.

With a sequential therapy regimen, the timing of change to oral therapy is determined by severity of the infection, clinical status of the patient and susceptibility of the pathogens involved. If there is no clinical improvement within 72 hrs, the parenteral course of treatment must be continued.

Please refer to the relevant prescribing information for cefuroxime axetil before initiating sequential therapy.

Effects on the Ability to Drive or Operate Machinery: None reported.

Use in pregnancy & lactation

There is no experimental evidence of embryopathic or teratogenic effects attributable to cefuroxime, but, as with all drugs, it should be administered with caution during the early months of pregnancy.

Cefuroxime is excreted in human milk, and consequently caution should be exercised when CEFUROXIME-ZHIJUN is administered to a nursing mother.

ADVERSE REACTIONS

Adverse reactions to CEFUROXIME-ZHIJUN have occurred relatively infrequently and have been generally mild and transient in nature. There have been rare reports of hypersensitivity reactions including skin rashes, urticaria, pruritus, interstitial nephritis, drug fever and very rarely anaphylaxis.

As with other cephalosphorins, there have been rare reports of erythema multiforme, Stevens-Johnson syndrome and toxic epidermal necrolysis (exanthemic necrolysis).

As with other antibiotics, prolonged use may result in the overgrowth of nonsusceptible organisms eg, Candida.

Gastrointestinal disturbance, including, very rarely, symptoms of pseudomembranous colitis may occur during or after treatment.

The principal changes in haematological parameters seen in some patients have been of decreased haemoglobin concentration and of eosinophilia, leukopenia, neutropenia and thrombocytopenia.

Cephalosporins as a class tend to be absorbed onto the surface of red cell membranes and react with antibodies directed against the drug to produce a positive Coombs' test (which can interfere with the cross-matching of blood) and very rarely haemolytic anaemia.

Although there are sometimes transient rises in serum liver enzymes or serum bilirubin, particularly in patients with preexisting liver disease, there is no evidence of harm to the liver.

Elevations in serum creatinine and/or blood urea nitrogen and a decreased creatinine clearance have been observed (see **Warnings and Precautions**).

Transient pain may be experienced at the site of IM injection. This is more likely to occur with higher doses. However, it is unlikely to be a cause for discontinuation of treatment. Occasionally, thrombophlebitis may follow IV injection.

INTERACTIONS

CEFUROXIME-ZHIJUN does not interfere in enzyme-based tests for glycosuria.

Slight interference with copper reduction methods (Benedict's, Fehling's, Clinitest) may be observed. However, this should not lead to false-positive results, as may be experienced with some other cephalosporins.

It is recommended that either the glucose oxidase of hexokinase methods are used to determine blood/plasma glucose levels in patients receiving CEFUROXIME-ZHIJUN.

CEFUROXIME-ZHIJUN does not interfere in the alkaline picrate assay for creatinine.

Incompatibilities

CEFUROXIME-ZHIJUN should not be mixed in the syringe with aminoglycoside antibiotics. The pH of 2.74% w/v sodium bicarbonate injection BP considerably affects the colour of the solution and therefore this solution is not recommended for the dilution of CEFUROXIME-ZHIJUN. However, if required, for patients receiving sodium bicarbonate injection by infusion, the CEFUROXIME-ZHIJUN may be introduced into the tube of the giving set.

Compatibility & Stability

CEFUROXIME-ZHIJUN 1.5 g constituted with water for injections 15 mL may be added to metronidazole injection (500 mg/100 mL) and both retain their activity for up to 6 hrs below 25°C.

CEFUROXIME-ZHIJUN 1.5 g is compatible with azlocillin 1 g (in 15 mL) or 5 g (in 50 mL) for up to 24 hrs at 4°C or 6 hrs below 25°C.

CEFUROXIME-ZHIJUN (5 mg/mL) in 5% w/v or 10% w/v xylitol injection may be stored for up to 6 hrs at 25°C.

CEFUROXIME-ZHIJUN is compatible with aqueous solutions containing up to 1% lignocaine HCl.

CEFUROXIME-ZHIJUN is compatible with the more commonly used IV infusion fluids. It will retain potency for up to 8 hrs at room temperature in sodium chloride injection BP 0.9% w/v, 5% dextrose injection BP, 0.18% w/v sodium chloride plus 4% dextrose injection BP, 5% dextrose and 0.9% sodium chloride injection, 5% dextrose and 0.45% sodium chloride injection, 5% dextrose and 0.225% sodium chloride injection, 10% dextrose injection, 10% invert sugar in water for injection, Ringer's injection USP, and lactated Ringer's injection USP.

The stability of CEFUROXIME-ZHIJUN in sodium chloride injection BP 0.9% w/v and 5% dextrose injection is not affected by the presence of hydrocortisone sodium phosphate.

CEFUROXIME-ZHIJUN has also been found compatible for 6 hrs at room temperature when admixed in IV infusion with: Heparin (10 and 50 units/mL) in 0.9% sodium chloride injection; potassium chloride (10 and 40 mEq/L) in 0.9% sodium chloride injection.

Suspensions for IM injection and aqueous solutions for direct IV injection retain their potency for 5 hrs if kept below 25°C and for 24 hrs if refrigerated (2~8°C).

STORAGE CONDITION

Drug powder: Store below 30°C and protect from light.

Reconstituted solutions: Suspensions for IM injection and aqueous solutions for direct IV injection retain their potency for 5 hrs if kept below 25°C and for 24 hrs if refrigerated (2~8°C).

DOSAGE FORMS AND PACKAGING AVAILABLE

750 mg/vial in box of 10 vials

Manufactured by:
SINOPHARM ZHIJUN (SHENZHEN) PHARMACEUTICAL CO., LTD.
No.16, Lanqing Yilu, Hi-tech Zone, Guanlan,
Longhua New District, Shenzhen, China

名称	注射用头孢呋辛钠说明书—马来西亚		
规格	通用	版本号	04
尺寸	143mm×247mm	审核	武广利
注册审核/日期		年 月 日	

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