1 NAME OF THE MEDICINAL PRODUCT

Cefalexin 250mg/5ml Oral Suspension

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Cefalexin 250mg per 5ml (Cefalexin (in granules) 7.80% w/w, Cefalexin (in dispensed suspension) 5.00% w/v).

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Pale yellow granules with a characteristic odour.

4.1 Therapeutic indications

Cefalexin is a semisynthetic cephalosporin antibiotic of the cephalosporin group which is active against a wide range of Gram-positive and Gram-negative organisms.
Cefalexin is indicated in the treatment of the following infections due to, susceptible micro-organisms.

Respiratory tract infections:

Otitis media

Skin and soft-tissue infections.

Bone and Joint infection

Genito-urinary tract infection

Dental infections.

4.2 Posology and method of administration

Posology
Adults

The adult dosage ranges from 1-4 g daily in divided doses; most infections will respond to a dosage of 500 mg every 8 hours. For skin and soft tissue infections, streptococcal pharyngitis and mild, uncomplicated urinary tract infections, the usual dosage is 250 mg every 6 hours, or 500 mg every 12 hours.

For more severe infections or those caused by less susceptible organisms, larger doses may be needed. If daily doses of cefalexin greater than 4 g are required, parenteral cephalosporins, in appropriate doses, should be considered.

The elderly and patients with impaired renal function
As for adults. Reduce dosage if renal function is markedly impaired (see
section 4.4).

Paediatric population
The usual recommended daily dosage for children is 25-50 mg/kg (10-20 mg/lb) in divided doses. For skin and soft tissue infections, streptococcal pharyngitis and mild, uncomplicated urinary tract infections, the total daily dose may be divided and administered every 12 hours. For most infections the following schedule is suggested:

Children under 5 years. 125 mg every 8 hours.

Children 5 years and over: 250 mg every 8 hours.

In severe infections, the dosage may be doubled. In the therapy of otitis media, clinical studies have shown that a dosage of 75 to 100 mg/kg/day in 4 divided doses is required.

In the treatment of beta-haemolytic streptococcal infections, a therapeutic dose should be administered for at least 10 days.

Method of administration
For oral use.
For instructions on reconstitution of the medicinal product before administration, see section 6.6.

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1. Cefalexin is contraindicated in patients with known allergy to the cephalosporin group of antibiotics or to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

Before instituting therapy with cefalexin, every effort should be made to determine whether the patient has had previous hypersensitivity reactions to the cephalosporins, penicillins or other drugs.

Cephalosporins should be given cautiously to penicillin-sensitive patients, There is some clinical and laboratory evidence of partial cross-allergenicity of the penicillins and cephalosporins. Patients have had severe reactions (including anaphylaxis) to both drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics, including macrolides, semisynthetic penicillins and cephalosporins. It is important, therefore, to consider its diagnosis in patients who develop diarrhoea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening. Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, appropriate measures should be taken.

If an allergic reaction to cefalexin occurs, the drug should be discontinued and the patient treated with the appropriate agents.

Prolonged use of cefalexin may result in the overgrowth of non-susceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Reports of neurotoxicity have been identified in association with cephalosporin treatment. Symptoms may include encephalopathy, myoclonus and seizures. Elderly patients, patients with severe renal impairment or central nervous system disorders are particularly at risk. Cefalexin should be administered with caution in the presence of markedly impaired renal function. Careful clinical and laboratory studies should be made because safe dosage may be lower than that usually recommended. If dialysis is required for renal failure, the daily dose of cefalexin should not exceed 500mg. If cefalexin associated neurotoxicity is suspected, discontinuation of cefalexin should be considered.

Concurrent administration with certain other drug substances, such as aminoglycosides, other cephalosporins, or furosemide (frusemide) and similar potent diuretics, may increase the risk of nephrotoxicity.

Positive direct ‘Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In haematological studies, or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side, or in ‘Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognised that a positive ‘Coombs' test may be due to the drug.

A false positive reaction for glucose in the urine may occur with Benedict’s or Fehling’s solutions or with copper sulphate test tablets.
This product contains sucrose. Patients with rare hereditary problems of fructose intolerance, glucose-galactose malabsorption or sucrase-isomaltase insufficiency should not take this medicine.
This medicinal product contains less than 1 mmol sodium (23 mg) per 5ml, that is to say essentially ‘sodium-free’.

Acute generalised exanthematous pustulosis (AGEP) has been reported in association with cefalexin treatment. At the time of prescription patients should be advised of the signs and symptoms and monitored closely for skin reactions. If signs and symptoms suggestive of these reactions appear, cefalexin should be withdrawn immediately and an alternative treatment considered. Most of these reactions occurred most likely in the first week during treatment.

4.5 Interaction with other medicinal products and other forms of interaction

As with other beta-lactam drugs, renal excretion of cefalexin is inhibited by probenecid.

In a single study of 12 healthy subjects given single 500mg doses of cefalexin and metformin, plasma metformin Cmax and AUC increased by an average of 34% and 24%, respectively, and metformin renal clearance decreased by an average of 14%. No side-effects were reported in the 12 healthy subjects in this study. No information is available about the interaction of cefalexin and metformin following multiple dose administration. The clinical significance of this study is unclear, particularly as no cases of “lactic acidosis” have been reported in association with concomitant metformin and cefalexin treatment.

Hypokalaemia has been described in patients taking cytotoxic drugs for leukaemia when they were given gentamicin and cefalexin.

4.6 Fertility, pregnancy and lactation

Pregnancy
Although laboratory and clinical studies have shown no evidence of teratogenicity, caution should be exercised when prescribing for the pregnant patient.

Breast-feeding

The excretion of cefalexin in human breast milk increased up to 4 hours following a 500mg dose. The drug reached a maximum level of 4 micrograms/ml, then decreased gradually and had disappeared 8 hours after administration. Caution should be exercised when cefalexin is administered to a nursing woman, since the neonate is presented with the risk of candidasis and CNS toxicity due to immaturity of the blood-brain barrier. There is a theoretical possibility of later sensitisation.

4.7 Effects on ability to drive and use machines

Not relevant.

4.8 Undesirable effects

Gastro-intestinal: Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely. The most frequent side effect has been diarrhoea. It was very rarely severe enough to warrant cessation of therapy. Dyspepsia and abdominal pain have also occurred. As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

Hypersensitivity: Allergic reactions have been observed in the form of rash, urticaria, angioedema, and rarely erythema multiforme, Stevens-Johnson syndrome and toxic epidermal necrolysis. These reactions usually subsided upon discontinuation of the drug, although in some cases supportive therapy may be necessary. Anaphylaxis has also been reported.

Haemic and Lymphatic System: Eosinophilia, neutropenia, thrombocytopenia and haemolytic anaemia have been reported.

Skin and subcutaneous tissue disorders: Acute generalised exanthematous pustulosis
(AGEP) has been reported with unknown frequency.

Other: These have included genital and anal pruritus, genital candidiasis, vaginitis and vaginal discharge, dizziness, fatigue, headache, agitation, confusion, hallucinations, arthralgia, arthritis and joint disorder. Reversible interstitial nephritis has been reported rarely. Slight elevations in AST and ALT have been reported. There have been reports of neurological sequelae including tremor, myoclonia, convulsions, encephalopathy with drugs belonging to the class of cephalosporins. Most cases occurred in patients with renal impairment who received doses that exceeded the recommended dose and resolved following discontinuation of treatment.

Reporting of suspected adverse reactions
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product, Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme: www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store.

4.9 Overdose

Symptoms of oral overdose may include nausea, vomiting, epigastric distress, diarrhoea and haematuria.

In the event of severe overdosage, general supportive care is recommended, including close clinical and laboratory monitoring of haematological, renal and hepatic functions, and coagulation status until the patient is stable. Forced diuresis, peritoneal dialysis, haemodialysis, or charcoal haemoperfusion have

not been established as beneficial for an overdose of cefalexin. It would be extremely unlikely that one of these procedures would be indicated.

Unless 5 to 10 times the normal total daily dose has been ingested, gastro-intestinal decontamination should not be necessary.
There have been reports of haematuria without impairment of renal function in children accidentally ingesting more than 3.5g of cefalexin in a day. Treatment has been supportive (fluids) and no sequelae have been reported.

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antibacterials for systemic use, First-generation cephalosporins, ATC code: J01D B01

In vitro tests demonstrate that cephalosporins are bactericidal because of their inhibition of cell-wall synthesis.

Cefalexin is active against the following organisms *in vitro*:

Beta-haemolytic streptococci

Staphylococci, including coagulase-positive, coagulase-negative and penicillinase-producing strains.

Streptococcus pneumoniae

Escherichia coli

Proteus mirabilis

Klebsiella species

Haemophilus influenzae

Branhamella catarrhalis

Most strains of enterococci *(Streptococcus faecalis)* and a few strains of staphylococci are resistant to cefalexin. It is not active against most strains of *Enterobacter* species, *Morganella morganii* and *Pr. vulgaris.* It has no activity against *Pseudomonas* or *Herellea species* or *Acinetobacter calcoaceticus.*

Penicillin-resistant *Strptococcus pneumonia* is usually cross-resistant to beta- lactam antibiotics. When tested by *in-vitro* methods, staphylococci exhibit cross-resistance between cefalexin and methicillin-type antibiotics.

5.2 Pharmacokinetic properties

Absorptio

n

Cefalexin is acid stable and may be given without regard to meals.
Cefalexin is almost completely absorbed from the gastro-intestinal tract, and 75-100% is rapidly excreted in active form in the urine. Absorption is slightly reduced if the drug is administered with food. The half-life is approximately 60 minutes in patients with normal renal function, Haemodialysis and peritoneal dialysis will remove cefalexin from the blood.

Distributio

n

Peak blood levels are achieved one hour after administration, and therapeutic levels are maintained for 6-8 hours.

Elimination

Approximately 80% of the active drug is excreted in the urine within 6 hours.

No accumulation is seen with dosages above the therapeutic maximum of 4 g/day.
The half-life may be increased in neonates due to their renal immaturity, but there is no accumulation when given at up to 50 mg/kg/day.

5.3 Preclinical Safety data

Daily oral administration of cefalexin to rats in doses of 250 or 500 mg/kg prior to and during pregnancy, or to rats and mice during the period of organogenesis only, had no adverse effect on fertility, foetal viability, foetal weight, or litter size.

Cefalexin showed no enhanced toxicity in weanling and newborn rats as compared with adult animals.

The oral LD_{50} of cefalexin in rats is 5,000 mg/kg.

6. PHARMACEUTICAL PROPERTIES

6.1 List of excipients

In Granules & Dispensed Suspension

Sodium Calcium Edetate

Acacia Powdered

Citric Acid

Sodium Citrate

Quinoline Yellow (E104)

Polvaromas Orange-Bramble Flavour

Sucrose

Purified water

6.2 Incompatibilities

Not applicable

6.3 Shelf life

Amber glass bottle
Dispensed Suspension: 2 years (unopened), 10 days when the bottle container is opened for the first time

Sachets
2 years

HDPE
Dispensed Suspension: 3 years (unopened).10 days when the bottle container is opened for the first time.

6.4 Special precautions for storage

Amber glass bottle

2 years at a temperature not exceeding 25°C.

Store the constituted suspension at 2^{O}C-8^{O}C, in a refrigerator.

Sachets

2 years at a temperature not exceeding 25°C.

HDPE bottle
3 years at a temperature not exceeding 25°C.
Store the constituted suspension at 2°C – 8°C, in a refrigerator.

6.5 Nature and contents of container

Bottles: 150ml amber glass bottles with PVC lined aluminium roll on caps or polypropylene caps having Melinex/Aluminium pulpboard liners.

Pack size: 100ml.

Sachets: (single dose) The 250mg sachets are made from a paper/aluminium foil/polyethene laminate.

Bottles: 150ml high density polyethylene (HDPE) bottles with tamper-evident polypropylene caps with polyethylene (PE) liners.

Pack size: 100ml.

Not all pack sizes may be marketed.

6.6 Instructions for use, handling and disposal

Glass and plastic (HDPE) bottles

To reconstitute, slowly add 60ml of water to the bottle, replace cap and shake well. Upon reconstitution a uniform yellow suspension with a characteristic odour is produced.

7. MARKETING AUTHORISATION HOLDER

Crescent Pharma Limited
Key House, Sarum Hill,
Basingstoke, RG21 8SR,
United Kingdom

8 MARKETING AUTHORISATION NUMBER(S)

PL 20416/0646

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

December 1969

10 DATE OF REVISION OF THE TEXT

24/10/2025