Ceephylexin is a semisynthetic cephalosporin antibiotic intended for oral administration. It is 7-D-(α-amino-α-phenylacetamido)-3-methyl-3-s-cepham-4-carboxylic acid monohydrate. Ceephylexin has the molecular formula C_{16}H_{17}N_{3}O_{4}S•H_{2}O and the molecular weight is 385.41.

Ceephylexin capsules, USP contain cephalexin monohydrate equivalent to 250 mg (720 μg) or 500 mg (1439 μg) of cephalexin. The capsules also contain the following inactive ingredients: Croscarmellose Sodium, D & C Yellow No. 10, F D & C Blue No. 1, F D & C Yellow No. 5, Sulfate, Magnesium Stearate, Microcrystalline Cellulose, Titanium Dioxide. Inactive ingredients appropriate to the dosage form are contained in the various strengths of capsules. The capsules contain Black Iron F D & C Yellow No. 6, Gelatin, Magnesium Stearate, Microcrystal-

Microbiology: In vitro tests demonstrate that the cephalosporins are bactericidal because of their inhibition of cell-wall synthesis. Ceephylexin has been shown to be active against most strains of the following microorganisms in vitro and in clinical infections as described in the INDICATIONS AND USAGE section.

- Aerobes, Gram-positive:
  - Staphylococcus aureus (except penicillinase-producing strains)
  - Staphylococcus epidermidis (penicillin-susceptible strains)
  - Streptococcus pneumoniae
  - Streptococcus pyogenes

- Aerobes, Gram-negative:
  - Escherichia coli
  - Haemophilus influenzae
  - Klebsiella pneumoniae
  - Moraxella (Branshameta) catarrhalis
  - Proteus mirabilis

- A merobes, Gram-positive:
  - Enterococcus faecalis (formerly S. faecalis) and S. faecium
  - Clostridium difficile

Susceptibility Tests

Diffusion Techniques: Quantitative methods that require measurement of zone diameters provide reproducible estimates of the susceptibility of bacteria to antimicrobial compounds. Such tests provide test results for use with disks that have been appropriately standardized in terms of amounts of antimicrobial agent they contain. These tests should be performed by a few specialized laboratories. The results of diffusion tests using standardized powders should be interpreted according to the following criteria:

MIC (μg/mL)
- < 0.06 (Susceptible)
- 0.12-0.5 (Intermediate)
- ≥ 1 (Resistant)

Interpretation should be as stated above for results using diffusion techniques.

As with standard diffusion techniques, dilution methods require the use of laboratory control microorganisms. Standard cephalothin powder should provide the following MIC values:

- Microorganism: Micrococcus pyogenes
- MIC (μg/mL): E. coli ATCC 25922
- Zone Diameter (mm): 15-21
- S. aureus ATCC 25923
- Zone Diameter (mm): 29-37

INCIDENCES AND USAGE

Ceephylexin is indicated for the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

- Respiratory tract infections caused by S. pneumoniae and S. pyogenes (Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the eradication of streptococci from the nasopharynx; however, substantial data establishing the efficacy of cephalexin in the subsequent prevention of rheumatic fever are not available at present.)
- Otitis media due to S. pneumoniae, H. influenzae, staphylococci, streptococci, and M. catarrhalis
- Skin and skin structure infections caused by staphylococci and/or streptococci

CONTRAINdications

Ceephylexin is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

BACTERIAL SUSCEPTIBILITY

Before Ceephylexin Therapy is instituted, careful inquiry should be made concerning previous hypersensitivity reactions to penicillin, cephalosporins, or other bacterial drugs, ceephylexin capsules, USP should be used only to treat infections caused by susceptible strains, and should never be used to treat infections caused by susceptible bacteria. When culture and susceptibility information are available, they should be considered in selecting or modifying antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

Pseudomembranous colitis has been reported with nearly all antibacterial agents, including ceephylexin, and may range from mild to life-threatening. Therefore, it is important to consider this diagnosis in patients with diarrhea subsequent to the administration of antibacterial agents.

Most cases of pseudomembranous colitis are caused by Clostridium difficile. Studies indicate that a toxin produced by Clostridium difficile is one primary cause of antibiotic-associated colitis.

After the diagnosis of pseudomembranous colitis has been established, appropriate therapeutic measures should be initiated. Mild cases of pseudomembranous colitis usually respond to discontinuation of the antibiotic. More severe colitis, however, should be treated with fluids and electrolytes, protein supplementation, and treatment with an antibacterial drug clinically effective against C. difficile.

Skin and skin structure infections caused by staphylococci and/or streptococci

Bone infections caused by staphylococci and/or P. mirabilis

Genitourinary tract infections, including acute prostatitis, caused by E. coli, P. mirabilis, and K. pneumoniae

Note - Culture and susceptibility tests should be initiated prior to and during therapy. Fetal renal function should be performed when indicated.

To reduce the development of drug-resistant bacteria and maintain the effectiveness of ceephylexin capsules, USP and other antibacterial drugs, ceephylexin capsules, USP should be used only to treat infections that are proven or strongly suspected to be caused by bacteria.
cephalexin and metformin, plasma metformin Cmax and AUC

Drug Interactions: medication should be taken exactly as directed. Skipping doses or common to feel better early in the course of therapy, the bacterial infection, patients should be told that although it is cold. When cephalexin capsules, USP is prescribed to treat infections. They do not treat viral infections (e.g., the common cold). Indicated surgical procedures should be performed in conjunction with antibiotic therapy. As a result of administration of cephalexin, a false-positive reaction of glucose in the urine may occur. This has been observed with Benedict’s and Fehling’s solutions and also with Clinitest® tablets. Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Information for Patients: Patients should be counseled that antibiotic drugs including cefalaxin capsules, USP should only be used to treat bacterial infections. They do not treat viral infections (e.g., the common cold). When cephalexin capsules, USP is prescribed to treat bacterial infection, patients should be told that although it is common to feel better early in the course of therapy, the medication should be taken exactly as directed. Skipping doses or not completing the full course of therapy may (1) decrease the effectiveness of the immediate treatment and (2) increase the likelihood that bacteria will develop resistance and will not be treatable by cefalaxin capsules, USP or other antibiotic drugs in the future.

Drug Interactions: Metformin: In healthy subjects given single 500 mg doses of cefalaxin and metformin, plasma metformin Cmax and AUC increased by an average of 34% and 24%, respectively, and metformin renal clearance decreased by 14%. No information is available about the interaction of cefalaxin and metformin following multiple doses of either drug. Although not observed in this study, adverse effects could potentially arise from co-administration of cefalaxin and metformin by inhibition of tubular secretion via organic cationic transporters system. In patients monoclonal and patient monitoring. If a dose adjustment of metformin is recommended in patients concomitantly taking cefalaxin/metformin.

Probenecid: As with other β-lactams, the renal excretion of cefalaxin is inhibited by probenecid.

Usage in Pregnancy-Pregnancy Category B: The daily oral administration of cefalaxin 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, pregnancy, or the offspring. Subsequent studies of cefalaxin during pregnancy in humans has not been established.

Cefalaxin showed no enhanced toxicity in weanling and newborn rats as compared with adult animals. Nevertheless, because the possibility of adverse reactions cannot be ruled out the possibility of harm, cefalaxin should be used during pregnancy only if clearly needed.

Nursing Mothers: The excretion of cefalaxin in the milk of lactating women is minimal. For a 500 mg dose, the drug reached a maximum level of 4 mcg/mL, then decreased gradually, and had disappeared 8 hours after administration. Caution should be exercised when cefalaxin is administered to a nursing woman.

Geriatric Use: Of the 701 subjects in 3 published clinical studies of cefalaxin, 43% (65%) were 65 and over. No overall differences in safety or effectiveness were observed between these subjects and younger subjects. Geriatric experience has not been adequately assessed in the elderly. More sensitive of some older individuals cannot be ruled out.

This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection. It may be useful to monitor renal function (see PRECAUTIONS, General).

ADVERSE REACTIONS
Gastrointestinal: Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely. The frequent side effect has been diarrhea. It was very rarely severe enough to warrant cessation of therapy. Diarrhea, gastritis, and abdominal pain have also occurred. As with some penicillins and some other β-lactam antibiotics, pseudomycelization and cholestatic jaundice have been reported rarely.

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

Other reactions have included genital and anal pruritus, genital moniliasis, vaginitis and vaginal discharge, dizziness, fatigue, headache, agitation, confusion, hallucinations, arthralgia, arthritis, and peripheral neuritis. Reversible renal tubular acidosis has been reported rarely. Eosinophilia, neutropenia, thrombocytopenia, and slight elevations in AST and ALT have been reported.

OVERDOSAGE

Signs and Symptoms: Symptoms of oral overdose may include nausea, vomiting, epigastric distress, diarrhea, and hematuria. If other symptoms are present, it is probably secondary to an underlying disease state, an allergic reaction, or toxicity due to ingestion of a second medication.

Treatment: To obtain up-to-date information about the treatment of cefalaxin overdoses, interaction among drugs, and unusual drug kinetics in humans, reference should be made to Poison Information Centers. Telephone numbers of certified poison control centers are listed in the Physician’s Desk Reference (PDR).

In the event of an oral overdose, interaction among drugs, and unusual drug kinetics in patients, it may be useful to consult the telephone numbers listed in the Physician’s Desk Reference and to hospitals possessing expertise in the management of such ingestions.

Symptoms of oral overdose may include nausea, vomiting, epigastric distress, diarrhea, and hematuria. If other symptoms are present, it is probably secondary to an underlying disease state, an allergic reaction, or toxicity due to ingestion of a second medication.

Protect the patient’s airway and support ventilation and perfusion. Meticulously monitor and maintain, within acceptable limits, the patient’s vital signs, blood gases, serum electrolytes, etc. Absorption of drugs from the gastrointestinal tract may be decreased by giving activated charcoal or by giving activated charcoal, which in many cases, is more effective than emesis or lavage; consider charcoal instead of or in addition to gastric emptying. Repeated doses of charcoal over time may hasten elimination of some drugs that have been absorbed. Safeguard the patient’s airway when employing gastric emptying or other airway protection measures.

Forced diuresis, peritoneal dialysis, hemodialysis, or charcoal hemoperfusion have not been established as beneficial for an overdose of cefalaxin; however, it would be extremely unlikely that one of these procedures would be indicated.

The oral median lethal dose of cefalaxin in rats is >5000 mg/kg.

DOSAGE AND ADMINISTRATION

Cefalaxin is administered orally.

ADULTS: The adult dosage ranges from 1 to 4 g daily in divided doses. The usual adult dose is 250 mg every 6 hours. For the following infections, a dosage of 500 mg may be administered every 12 hours: streptococcal pharyngitis, skin and skin structure infections, and uncomplicated cystitis in patients over 15 years of age; cystitis therapy should be continued for 7 to 14 days. Fewer severe infections or those caused by less susceptible organisms, larger doses may be needed. If daily doses of cefalaxin greater than 4 g are required, parenteral cefalaxin, in appropriate doses, should be considered.

For the treatment of streptococcal pharyngitis in patients over 1 year of age and for skin and skin structure infections, the total daily dose may be divided and administered every 12 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 β-hemolytic streptococcal infections, a therapeutic dosage of cefalaxin should be administered for at least 10 days.

HOW SUPPLIED

Cefalaxin capsules, USP are available in:

- The 250 mg capsules are white opaque body imprinted with “KXL” in black ink and green opaque cap imprinted with “140” in black ink. They are available as follows:
  - Bottles of 100 NDC 34243-140-01
  - Bottles of 500 NDC 34243-140-05

- The 500 mg capsules are light green opaque body imprinted with “KXL” in black ink and green opaque cap imprinted with “141” in black ink. They are available as follows:
  - Bottles of 100 NDC 34243-141-01
  - Bottles of 500 NDC 34243-141-05

Store at 25°C (77°F); excursions permitted to 15-30°C (59-86°F) [see USP Controlled Room Temperature].

REFERENCES


Manufacturer for:

Duchx Healthcare

(A Division of Orchid Chemicals & Pharmaceuticals Ltd.)

At Iturumachi Chemicals & Pharmaceuticals Ltd.)

470 Chestnut Ridge Road, Woodcliff Lake, NJ 07677

Distributed by:

Karalex Pharmaceuticals

470 Chestnut Ridge Road, Woodcliff Lake, NJ 07677

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