PF-200™ Tablets

Faropenem 200 mg Tablets

Faropenem sodium

Overview

Antibiotics resistance has become a serious public health concern, with economic and social implications throughout the world. Organisms such as S. pneumoniae, H. influenzae and M. catarrhalis cause major forms of respiratory tract infections, while E. coli and Klebsiella pneumoniae cause urinary tract infections. All are also known for producing different types of beta-lactamases, which results in drug resistance.

Infections caused by such resistant bacteria lead to higher rates of hospitalization, longer hospital stay and increase in the cost of treatment, thereby leading to increased economic burden on the community. Drugs used clinically in the empirical treatment of community-acquired respiratory tract infections currently include beta-lactams, macrolides (and azalides) and the new broad-spectrum quinolone group. But, growing resistance rates to these antibiotics reduces the therapeutic options available for treating these infections.

Faropenem is the only currently available penem intended for oral administration, which shares structural similarities with both penicillins and cephalosporins. It possesses a broad spectrum of antibacterial activity, which includes Gram-negative,

Gram-positive and some anaerobic bacteria. It has the potential to address most of the relevant resistance issues and has intrinsic stability against hydrolytic attacks by many beta-lactamases, including extended-spectrum beta-lactamases (ESBLs) and Amp C enzymes.

Faropenem has a low propensity for resistance development and beta-lactamase induction. This makes it attractive for the treatment of community-acquired infections, and for step-down or sequential therapy following carbapenem treatment without jeopardizing the activity of carbapenems or the entire beta-lactam class in the hospital environment.

Faropenem is approved for use in the treatment of upper and lower respiratory tract infections, ear, nose and throat (ENT) infections, genito-urinary infections, skin and skin structure infections, and gynaecological infections.

FAROBACT 200 is available as 200 mg oral tablets. The recommended dose for faropenem is 200 mg t.i.d. and the duration of treatment depends upon the severity of infection, clinical response and bacteriological findings

It is also available in extended release form as FAROBACT 300 ER tablets. The usually recommended dose of faropenem extended-release tablets in most infections caused by susceptible microorganisms is one tablet of 300 mg given twice a day. The dose of the drug can be increased depending upon the response to the treatment. The usually recommended duration of therapy is 7-14 days which depends upon the severity of infection, clinical response and bacteriological findings.

Prescribing information

Composition

Farobact 300 ER Tablets

Each film coated, extended-release tablet contains:

Faropenem Sodium Hydrate JP

equivalent to

Faropenem..... 300 mg

Excipients..... q.s.

Colours: Ferric Oxide USP-NF Yellow and Titanium Dioxide IP

Dosage Form

Oral tablet

Pharmacology

Pharmacodynamics

Faropenem is a penem, an oral beta-lactam antibiotic. It is bactericidal, with a strong affinity for the high molecular penicillin-binding proteins (PBPs) of the cell wall, which is essential for the multiplication of bacilli; it, thus, acts by inhibiting the cell wall synthesis. Faropenem is also less susceptible to the actions of dehydropeptidase-1 (DHP-1) than are the carbapenems meropenem and imipenem. Faropenem is resistant to the effects of various beta-lactamases and binds preferentially to the PBPs, 2 and 1A, of Escherichia coli (E. coli).

Microbiology

Faropenem shows broad antibacterial activity against both aerobic and anaerobic Gram-positive and Gram-negative bacteria, excluding Pseudomonas aeruginosa. Faropenem was found to be active against:

Gram-positive bacteria

Streptococcus pneumoniae (both penicillin-sensitive and penicillin-resistant)

Staphylococcus aureus (oxacillin-sensitive)

Staphylococcus epidermidis (oxacillin-sensitive)

Enterococcus faecalis,

Listeria sp.

Group A Streptococci

Gram-negative bacteria:

Haemophilus influenza (both beta-lactamase negative and beta-lactamase positive)

Moraxella catarrhalis (both beta-lactamase negative and beta-lactamase positive)

Escherichia coli (both ampicillin-sensitive and ampicillin-resistant)

Salmonella sp.

Shigella sp.

Neisseria gonorrhoeae

Neisseria meningitides

Anaerobic bacteria:

Clostridium perfringens

Clostridium difficile

Bacteroides fragilis

Peptostreptococcus sp.

Pharmacokinetics

Absorption

Faropenem sodium has a linear pharmacokinetic profile with single oral doses of 150, 300 and 600 mg conventional tablets in the fasting state giving C_{max} values of 2.36, 6.24, and 7.37 g/ml, respectively in healthy volunteers. The drug has a T_{max} of 1 h in children and 1-2 h in adults. There is no drug accumulation after multiple dosing. Food prolongs the T_{max} value by 1 h. On the other hand, the absorption of faropenem sodium extended release tablets is significantly delayed as compared to faropenem sodium conventional tablets and adequate levels of the drug are maintained for 12 hours.

Faropenem is excreted predominantly by the renal route with an elimination half-life of 0.89-1 h in children and 1 h in adults. Urinary excretion in 12 h accounted for 20% of dose, about 5% being recovered as unchanged compound and the rest as two metabolites.

Indications

Faropenem sodium extended release tablets are indicated in the treatment of the following infections caused by susceptible microorganisms:

- *Respiratory tract infections (both upper and lower)*
- *Urinary tract infections (both uncomplicated and complicated)*
- *Skin and soft tissue infections*
- *Gynaecological infections*

Dosage and Administration

The usually recommended dose of faropenem extended-release tablets in most infections caused by susceptible microorganisms is one tablet of 300 mg given twice a day. The dose of the drug can be increased depending upon the response to the treatment.

The usually recommended duration of therapy is 7-14 days which depends upon the severity of infection, clinical response and bacteriological findings.

Faropenem extended-release tablets must be swallowed whole and never crushed or chewed.

Contraindications

Faropenem sodium extended release tablets are contraindicated in patients with a known hypersensitivity to the drug or to the penem class of antibacterials or to penicillins or cephalosporins and related beta-lactams or in patients who have demonstrated anaphylactic reactions to beta-lactams.

Warnings and Precautions

Faropenem sodium extended release tablets should be administered with caution in the following:

1. *Patients with a history of hypersensitivity to penicillin, cephem or carbapenem drugs. There is a risk of occurrence of anaphylactic shock; a thorough medical history should be taken.*
2. *Patients with a family history of atopy.*
3. *The drug should be given with caution in patients with renal impairment; the dosage should be reduced or the interval between doses should be increased.*
4. *Patients with poor oral intake or a poor general state (since there are cases that show symptoms of vitamin K deficiency, proper monitoring should be done).*
5. *Diarrhoea and loose bowel movement are frequently reported with faropenem. In case it occurs, especially in the case of elderly patients, appropriate measures, such as discontinuation of faropenem, etc., should be taken.*

Faropenem sodium therapy may change the normal bacterial flora in the intestines and can lead to supra-infection by organisms including Clostridium difficile or Candida, particularly with prolonged use.

Farobact contains lactose, patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose galactose malabsorption should not take this medicine.

Drug interactions

Imipenem and Cilastatin Sodium Combination: It has been reported in animal studies (rat) that, the concentration of faropenem in the blood increases due to the obstruction of metabolic fermentation by cilastatin.

Furosemide: It has been reported in animal studies (dog), that faropenem increases the kidney toxicity

Sodium Valproate: It has been reported that due to joint usage with carbapenem drugs (meropenem, panipenem and imipenem-cilastatin sodium), the concentration of valproic acid in the blood reduces, and there is a recurrence of epileptic fits.

Renal impairment

In patients with renal impairment, it was found that the plasma concentrations of the drug are increased and the half-life is extended.

Pregnancy

Safety regarding therapy during pregnancy has not been established. Faropenem sodium extended release tablets should be used with caution in pregnant women or expectant mothers, only if the benefits of the treatment are greater than the risks involved.

Lactation

Faropenem is excreted in human milk. Therefore, faropenem should be given to nursing mothers only if the benefits outweigh the risks.

Paediatric use

Safety regarding therapy in infants has not been established.

Geriatric use

The half-life of faropenem is prolonged in the elderly and this may be due to a decline in kidney functions, which results in high plasma concentrations. Therefore, in the elderly, start with a dose of 150 mg and monitor the patient for any undesirable effects.

Be cautious as diarrhea and loose bowels in aged people may lead to general degeneration of health, therefore if these symptoms are observed, stop the medication and take appropriate measures. The aged persons are prone to bleeding or hemorrhage due to vitamin K deficiency.

Undesirable Effects

Faropenem sodium extended release tablets are generally well tolerated. The most frequently reported adverse reaction is diarrhoea. Other reported adverse events include abdominal pain, loose bowel movements, nausea, rash, vomiting and headache.

The following adverse reactions have also been observed:

- *Shock (less than 0.1%), Pseudo Anaphylactic Symptoms: Patients should be kept under careful observation. In case of pain, oral abnormality or heaves, difficulty in breathing, dizziness, urge to excrete the bowels, tinnitus generalized flushing, angioeodema, perspiration, low blood pressure, etc. Stop the medication and take appropriate steps.*
- *Acute Renal Failure: In case of acute renal impairment, etc., severe symptoms of dysfunction of the kidneys are observed but when it becomes abnormal, stop the medication immediately and take appropriate measures.*

- *Severe Colitis Accompanied with Bloody Stools due to Pseudomembranous Colitis: The patient should be kept under careful examination as severe colitis may appear, along with bloody stools, due to pseudomembranous colitis. If stomachache and diarrhoea persist, stop the medication immediately and take appropriate measures.*
- *Mucocutaneous Ocular Syndrome (Stevens-Johnson syndrome): Patients should be observed carefully as toxic epidermal necrosis (Lyell's syndrome) and Stevens-Johnson syndrome may appear; in case of such occurrence, stop the medication immediately and take appropriate measures like administering the medicine for adrenal cortex hormone, etc.*
- *Interstitial Pneumonia: In case of symptoms such as pyrexia, cough, breathing problems, and/or abnormalities in the chest x-ray along with interstitial pneumonia, stop the medication immediately and take appropriate measures like administering the medicine for an adrenal cortical hormone, etc.*
- *Liver Function Disorder, Jaundice: Observe closely by taking periodic tests etc. because rise in the levels of AST (SGOT), ALT (SGPT), ALP, will be indicated along with jaundice; hence in case of such abnormalities, stop administering the medication and take appropriate measures.*
- *Agranulocytosis: There can be risk of agranulocytosis so be cautious. In case of abnormality, stop the medication and take steps as appropriate.*
- *Striated Muscle Softening, Rhabdomyolysis: Rhabdomyolysis presents with symptoms of muscular pain, lethargy, increase in CK (CPK), and rising level of myoglobin in blood and urine can occur, which can lead to severe kidney dysfunction such as renal failure. When such symptoms appear, stop the medication and take appropriate measures.*
- *Pulmonary Infiltration with Eosinophilia (PIE) Syndrome: The possibility of PIE syndrome has been reported along with increase in acidocytes in case of symptoms such as pyrexia, cough, breathing problems, abnormality in the chest x-ray, stop the medication immediately and take appropriate measures like administering the medication for adrenal cortical hormone, etc.*
- *Hypersensitivity Reactions: rash, pyrexia, redness, hives, red spots on the skin, etc.*
- *Abnormal laboratory findings: These include increases in liver function tests (ALT, AST, bilirubin, LDH), eosinophilia, increase in BUN, creatinine, changes in granulocyte and platelets.*
- *Vitamin Deficiency: Symptoms of vitamin K deficiency (low prothrombin, tendency of haemorrhage, etc.). symptoms of vitamin B-group deficiency*

(inflammation of the tongue, stomatitis, lack of appetite, neuritis, etc.) might occur rarely.

- *Gastrointestinal Disorders: Vomiting, stomachache, diarrhoea, lack of appetite, gastritis, constipation, inflammation of the corners of the mouth and lips, stomatitis.*
- *Others: Rarely burning sensation, headache, dizziness, drowsiness, oedema, dryness of the mouth and lips, change in nail colour, and washed-out feeling occurs rarely.*

If you experience any side-effects, talk to your doctor or pharmacist or write to drugsafety@cipla.com. You can also report side effects directly via the national pharmacovigilance program of India by calling on 1800 180 3024.

By reporting side-effects, you can help provide more information on the safety of this product.

Overdosage

No specific information is available on the treatment of over dosage with faropenem. Intentional overdosing of faropenem is unlikely. In the event of an overdose, faropenem should be discontinued and general supportive treatment given until renal elimination takes place.

Storage and Handling Instructions

Store below 25??C.

Protect from light and moisture.