BELACEF

Instructions for the medicinal product

Trade name: Belacef.
International Nonproprietary Name: Ceftriaxone.
Dosage form: Dry powder for injection + WFI.
Composition: Each vial contains:
Sterile Ceftriaxone Sodium USP eq. to Ceftriaxone 1 g.
Pharmacotherapeutic group: Third-generation cephalosporins.
ATC Code: J01DD04.
Pharmacologic property:
Pharmacodynamics:
Ceftriaxone has bactericidal activity resulting from the inhibition of bacterial cell wall synthesis ultimately leading to cell death.
Ceftriaxone is stable to a broad range of bacterial β-lactamases.
Ceftriaxone is stable to a wide range of both Gram-positive and Gram-negative beta-lactamases, including those, which are able to hydrolyse advanced generation penicillin derivatives and other cephalosporins.
It is active against following aerobic Gram-positive bacteria: Staphylococcus spp. (including S. epidermis), Staphylococcus aureus, Group B (Streptococcus agalactiae), Streptococcus bovis, Streptococcus pneumonia, Group A Streptococcus (Streptococcus pyogenes), Streptococcus viridans; Gram-Negative aerobes: Citrobacter spp. (including C.freundii), Escherichia coli, Haemophilus influenzae (including beta-lactamase positive isolates), Haemophilus para-influenzae, Klebsiella spp. (including K. pneumoniae and K. oxytoca), Moraxella catarrhalis, Morganella morganii, Neisseria gonorrhoea (including penicillin-resistant isolates), Neisseria meningitides, Proteus spp. (including P. mirabilis and P. vulgaris), Salmonella spp. (including S. typhimurium), Serratia spp. (including Serratia marsescens), Shigella spp.; Anaerobes: Clostridium spp.
Has activity in vitro against most strains of the following microorganisms, although the clinical significance of this is unknown: Citrobacter diversus, Citrobacter freundii, Providencia spp. (Including Providencia rettgeri), Salmonella spp. (Incl. Salmonella typhi), Shigella spp., Streptococcus agalactiae, Bacteroides bivius, Bacteroides melaninogenicus.
Methicillin-resistant staphylococci are resistant to cephalosporins and including to ceftriaxone. Many strains of group D streptococci and enterococci (including Enterococcus faecalis) are also resistant to ceftriaxone.
Pharmacokinetics:
The pharmacokinetics of ceftriaxone is largely determined by its concentration-dependent binding to plasma albumin. The plasma free (unbound) fraction of the drug in man is approximately 5% over most of the therapeutic concentration range, increasing to 15% at concentrations of 300mg/l. Owing to the lower albumin content, the proportion of free ceftriaxone in interstitial fluid is correspondingly higher than in plasma.
Mean peak concentrations after bolus intravenous injection are about 120mg/l following a 500mg dose and about 200mg/l following a 1g dose; mean levels of 250mg/l are achieved after infusion of 2g over 30 minutes. Intramuscular injection of 500mg ceftriaxone in 1% Lidocaine Injection BP produces means peak plasma concentrations of 40-70 mg/l within one hour. Bioavailability after intramuscular injection is 100%.
Ceftriaxone is eliminated mainly as unchanged drug, approximately 60% of the dose being excreted in the urine (almost exclusively by glomerular filtration) and the remainder via the biliary and intestinal tracts. The total plasma clearance is 10-22 ml/min. The renal clearance is 5-12 ml/min. A notable feature of ceftriaxone is its relatively long plasma elimination half-life of approximately eight hours which makes single or once daily dosage of the drug appropriate for most patients. The half-life is not significantly affected by the dose, the route of administration or by repeated administration.
Pharmacokinetics in special clinical situations: In the first week of life, 80% of the dose is excreted in the urine; over the first month, this falls to levels similar to those in the adult. In infants aged less than 8 days the average elimination half-life is usually two to three times longer than that of young adults.
In elderly persons aged over 75 years, the average elimination half-life is usually two to three times longer that in the young adult group. As with all cephalosporins, a decrease in renal function in the elderly may lead to an increase in half-life.
In patients with renal or hepatic dysfunction, the pharmacokinetics of ceftriaxone are only minimally altered and the elimination half-life is only slightly increased. If kidney function alone is impaired, biliary elimination of ceftriaxone is increased; if liver function alone is impaired, renal elimination is increased.
Cerebrospinal fluid: ceftriaxone crosses non-inflamed and inflamed meninges, attaining concentrations 4-17% of the simultaneous plasma concentration.
Indications for use:
Bacterial infections caused by susceptible organisms:
- Abdominal infections (peritonitis, inflammatory diseases of the gastrointestinal tract, biliary tract, including cholangitis, empyema of the gallbladder);
- Diseases of the upper and lower respiratory tract infections (including pneumonia, lung abscess, empyema);
- Bone and joint infections;
- infections of skin and soft tissues;
- Urinary tract infections (including pyelonephritis);
- Bacterial meningitis;
- Endocarditis;
- Sepsis;
- Gonorrhea;
- Syphilis;
- Chancroid;
- Lyme disease (borreliosis), typhoid fever;
- Salmonellosis;
- Infected wounds and burns,
- Peri-operative prophylaxis of infections associated with surgery;
- Infections in people with weakened immune systems.

Contraindications:
- Hypersensitivity to the drug;
- Hypersensitivity to other cephalosporin's, penicillin's, carbapenems;
- Contraindications of lidocaine must be excluded before intramuscular injection of ceftriaxone when lidocaine is used as a solvent.

Precautions:
With cautions should be prescribed for newborns with hyperbilirubinemia, premature babies and patients with renal and / or hepatic failure, ulcerative colitis, enteritis or colitis associated with the use of antibiotics.
Pregnancy and Nursing Mother:
This drug should be used during pregnancy only if clearly needed.
Low concentrations of ceftriaxone are excreted in human milk. Caution should be exercised when Belacef is administered to a nursing woman.
Dosage and directions for use:
Belacef may be administered by deep intramuscular injection, or as a slow intravenous injection, after reconstitution of the solution.
For adults and children over 12 years: the dose is 1 - 2 g 1 time / day or 0.5 - 1 g every 12 hours, maximum daily dose - 4 g.
For infants (aged 2 weeks): the dose is 20 - 50 mg / kg / day.
For infants and children up to 12 years: the daily dose is 20 - 80 mg / kg.
For children weighing is 50 kg or more, the dose is like for adults.
The dose of 50 mg / kg of body weight should be administered as infusion IV for 30 min. The duration of treatment depends on the nature and severity of the disease.
In bacterial meningitis in infants and young children, the dose is 100 mg / kg 1 time / day. The maximum daily dose – 4 g. Duration of therapy depends on the type of pathogen and can range from 4 days in meningitis caused by Neisseria meningitidis, and 10 - 14 days in meningitis caused by susceptible strains of Enterobacteriaceae.
For the treatment of gonorrhea the dose is 250 mg intramuscularly, once.
Peri-operative prophylaxis: Usually one dose of 1g given by intramuscular or slow intravenous injection. In colorectal surgery, 2g should be given intramuscularly (in divided doses at different injection sites), by slow intravenous injection or by slow intravenous infusion, in conjunction with a suitable agent against anaerobic bacteria.
Children with infections of skin and soft tissue preparation is administered in a daily dose 50 - 75 mg / kg of body weight one time / day or 25 - 37.5 mg / kg every 12 hours, but not more than 2 g / day. In severe infections at other sites - at a dose of 25 - 37.5 mg / kg every 12 hours, but not more than 2 g / day.
Otitis media the drug is administered IM - 50 mg / kg of body weight, but not more than 1 g.
In patients with impaired renal function, there is no need to reduce the dosage of ceftriaxone provided liver function is intact. Only in cases of pre-terminal renal failure (creatinine clearance <10ml per minute) should the daily dosage be limited to 2g or less.
Terms of preparing and administering solution for injections:
Injections should be prepared immediately before use.
To prepare the solution for injection IM, 0.5 g dissolved in 2 ml and 1g of product - 3.5 ml of 1% lidocaine. It is recommended that not more than 1 g in one buttock.
To prepare the solution for IV injection, 0.5 g dissolved in 5 ml, and 1g of the preparation - 10 ml of sterile water for injection. Injection solution administered IV (slowly) for 2 - 4 minutes.
To prepare the solution for IV infusion of 2 g of the drug dissolved in 40 ml of one of the following solutions containing calcium: 0.9% sodium chloride, 5 - 10% dextrose (glucose), levulose 5% solution. Preparation of 50 mg / kg and more to be administered IV drip for 30 min.
Side-effects:
CNS: headache, dizziness.
Urinary system: oliguria, renal dysfunction, glycosuria, hematuria, hypercreatininemia, elevated levels of urea.
Digestive system: nausea, vomiting, taste disturbance, flatulence, stomatitis, glossitis, diarrhea, pseudomembranous enterocolitis, psevdoholelitiaz (sludge syndrome), goiter, abdominal pain, increase in liver transaminases and alkaline phosphatase, hyperbilirubinemia.
Hematopoietic system: anemia, leukopenia, leukocytosis, lymphopenia, neutropenia, granulocytopenia, thrombocytopenia, thrombocytosis, basophilia, hemolytic anemia.
Blood system: high concentration of eosinophils, platelet counts in the blood, decrease in white blood cells, low prothrombin levels, bleeding.
Allergic reactions: urticaria, rash, pruritus, erythema multiforme erythema, fever, chills, edema, eosinophilia, anaphylaxis, serum sickness, bronchospasm.
Other: superinfection (including candidiasis).
Local reactions: with the introduction of explosives - phlebitis, pain along the vein, when IM introduction is - soreness at the injection site.
Overdose:
Symptoms: may occur nausea, vomiting, and diarrhea.
Treatment: Belacef concentration cannot be reduced by haemodialysis or peritoneal dialysis. There is no specific antidote. Treatment is symptomatic.
Drug interaction:
Ceftriaxone and aminoglycosides have synergistic against many gram-negative bacteria. When combined with the use of NSAIDs and other antiplatelet agents increases the risk of bleeding.
While the use of "loop" diuretics and other nephrotoxic drugs increases the risk of nephrotoxicity.
The drug is not compatible with ethanol.
Ceftriaxone may adversely affect the efficacy of oral hormonal contraceptives. Consequently, it is advisable to use supplementary (non-hormonal) contraceptive measures during treatment and in the month following treatment.
Pharmaceutical interactions:
Pharmaceutically not compatible with solutions containing other antibiotics.
Cautions:
If lidocaine is used as a solvent Belacef solutions should only be used for intramuscular injection.
Ceftriaxone should be given with caution to patients who have had any type of hypersensitivity reaction to penicillin or any beta-lactam drug. Care is required when administering ceftriaxone to patients who have previously shown hypersensitivity to penicillin's or other non-cephalosporin beta-lactam antibiotics, as occasional instances of cross allergenicity between cephalosporins and these antibiotics have been recorded. Anaphylactic shock requires immediate counter measures.
Safety and effectiveness of Belacef in neonates, infants and children have been established for the dosages. In vivo and in vitro studies have shown that ceftriaxone, like some other cephalosporins, can displace bilirubin from serum albumin. Clinical data obtained in neonates have confirmed this finding. Ceftriaxone should therefore not be used in neonates (especially prematures) at risk of developing bilirubin encephalopathy.
Regular blood counts (haemoglobin, erythrocyte, leucocyte and platelet counts and screening for prolongation of prothrombin time) should be carried out during treatment.
Cephalosporins may cause bleeding due to hypoprothrombinaemia and should be used with caution in patients with renal or hepatic impairment, malnourished patients or those with low vitamin K levels and also in patients receiving prolonged cephalosporin therapy who are at increased risk of developing hypoprothrombinaemia.
Presentation:
1x1, vial + 10 ml long plastic ampoule for SWFI in a pack, with instruction for use.
Storage:
Keep in dry place, protected from light at a temperature below 30°C. Keep out of reach of children.
Shelf life:
Labeled. Do not use after expiry date.
Distribution Condition:
Prescribed medicine.