FORMULA
Each vial contains ceftriaxone disodium 3 ½ H₂O equivalent to 1.0 g Ceftriaxone (as an active substance).
Dissolvent Ampoule contains 10 ml sterilized apyrogenic water.

PHARMACOLOGICAL PROPERTIES
Cephaxon (ceftriaxone) is a semi-synthetic cephalosporin derivative. Available chemically in the market in the form of disodium salt, it is called ceftriaxone sodium and contains approximately 3.6 mEq sodium per gram. Cephaxon (ceftriaxone) is a cephalosporin with bactericidal effect and shows its antibacterial effect by inhibiting mucopeptide synthesis on bacterial cell wall. Ceftriaxone is accepted as a third generation injectable cephalosporin due to its spectral activity. It is effective against the following bacteria strains:

Gram-Positive Aerobic Bacteria:
- Staphylococcus aureus (including the strains producing penicillinase and non-penicillinase),
- Staphylococcus epidermidis, Streptococcus pneumonia, Group A Beta haemolytic Streptococci (S.pyogenes), group B streptococci (S.agalactiae), S.viridans, non-enterococcal group D streptococci

Gram-Negative Aerobic Bacteria:
- Neisseria: Neisseria meningitidis, subgroups forming penicillinase and non-penicillinase
- Haemophilus: Haemophilus Influenzae which produces β-Lactamase / Non-β-Lactamase
- Haemophilus parainfluenzae, Haemophilus ducreyi
- Enterobacteriaceae: Citrobacter diversus, S.freundil, Enterobacter cloaca, E. aerogenesis, E.coli, Klebsiella pneumonia, Morganella morganii, Proteus mirabilis, P.vulgaris, Providencia rettgeri, P.startii, Serratia marcescens, Salmonella, Shigella and Yersinia enterocolitica. Effective against Pseudomonas; its activity is lower than some other cephalosporins and resistant strains are also available.

Anaerobic Bacteria:
- Actinomyces, Fusobacterium, Lactobacillus, Peptococcus, Peptostreptococcus, Propionibacterium and Veillonella, Clostridium perfringens, Bacteroides melaninogenicus as in vitro (B.fragilis is the most resistant)

PHARMACOKINETICS
Ceftriaxone, when administered through IM is absorbed from the injection point, peak plasma concentration levels are reached within 1.5-4 hours after a single dose. On the other hand, in multi-dose studies, steady serum concentrations are reached by the 4th day of treatment adults administered 0.5-2 gram doses through IM or IV at the intervals of 12 to 24 hours, and it corresponds to higher concentrations approximately by 15-36 % than the single dose peak serum concentrations. After IM or IV injection; it is distributed widely through the body with circulation into almost all tissues and liquids such as to gall bladder, lungs, bones, biles, prostate gland, uterus, atrial appendix, phlegm, teardrops, pleural, peritoneal, synovial, asidic and blister liquids. After IM or IV injection, Ceftriaxone passes to CSF, but these passes increases in cases of meninx inflammation. Elimination half-life in healthy adults is about 8 hours; 50-60 % is eliminated without changing through kidneys, 40-50% is eliminated without changing through the bile. Elimination half-life might extend for those with renal or
hepatic functional disorders. Hepatic elimination increases for those with merely renal function disorder and renal elimination increases for those only with hepatic failure.

**INDICATIONS**
It is indicated in:
- Upper and Lower Respiratory Tract Infections
- Skin and soft tissue infections
- Bone, diarthrosis and related tissue infections
- Intra-abdominal infections
- Urinary tract infections
- Meningitis
- Septicaemia
- Infections such as Gonorrhoea and Ophthalmic Gonorrhea
- Chancroid
- Pelvic Inflammatory Disease
- Shunt infections seen in the Central Nervous System
- Spirochetal infections
- Perioperative prophylaxis

Caused by sensitive pathogens.

**CONTRAINDICATIONS**
It is contraindicated in those who are known as hypersensitive to cephalosporins. With the exception of exact indication, it should not be used in pregnant women, especially during the first trimester. The newborn infants with hyperbilirubinemia and premature newborn infants should not be treated with ceftriaxone. In vitro studies show that ceftriaxone is able to separate bilirubin from serum albumin and bilirubin encephalopathy might progress in these patients. It is contraindicated to use ceftriaxone and the products containing intravenous calcium simultaneously for the newborn infant (28 days). Ceftriaxone should not be used for the newborn infants who are being taken (or expected to be taken) intravenous products containing calcium.

**CAUTIONS/PRECAUTIONS**
Like penicillins, cephalosporins might also generate anaphylactic shock with the injection. In such cases encountered particularly in intravenous injections, it should be paid attention that the respiratory tract is open; in case of shock, treatment should be started with intravenous adrenaline and proceeded with glucocorticoids. In rare cases, shadows might be seen under abdominal ultrasonography in parts fitting in with the gall bladder, during Cephaxon treatment. Such a case disappears upon cessation of the treatment. In vitro studies show that ceftriaxone is able to separate bilirubin from serum proteins.

Ceftriaxone is eliminated by milk albeit at a low level. Therefore, it is not recommended to nursing mothers. During treatment, it is advised to control the blood table at regular intervals, particularly in events the treatment is likely to last for a long period. It has been reported that Ceftriaxone-(casium) residues can be fatal in lungs and kidneys of the term and pre-term babies. Products containing Ceftriaxone and casium may be used consequently in patients older than 28 days. In such a case, infusion pathway should be washed with appropriate liquids. For any age-group, Ceftriaxone should not be administered by using a “Y-set” simultaneously with the solutions containing intravenous calcium. Ceftriaxone should not be diluted or mixed with solutions containing calcium such as Ringer and Hartmann solution or with parenteral nutrition solutions containing calcium. There is no sufficient information is available on the matter of interaction between products containing intravenous ceftriaxone and oral calcium or between products containing intramuscular ceftriaxone and intravenous or oral calcium.
SIDE EFFECTS / ADVERSE EFFECTS
Usually well tolerated Cephaxon may cause the following side/adverse effects:

Local Side/Adverse Effects:
After IV application, reactions similar to thrombophlebitis might appear rarely. To avoid such a case, the injection must be made very slowly. Solvents with lidocaine should be used as solvent for IM injections due to pain prevention in muscle.

Gastrointestinal Side/Adverse Effects:
Soft feces, diarrhoea, nausea, vomiting, stomatitis, glossitis

Haematological Side/Adverse Effects:
Eozinophilia, leucopenia, granulocytopenia, thrombocytopenia might appear (less than 2%)

Dermatologic Side/Adverse Effects:
Allergic dermatitis, pruritus, urticaria

Rarely Appearing Side/Adverse Effects:
Headache, dizziness, increase the level of liver enzymes, oliguria, increase in serum creatinine levels; mycosis in genital mucosa, anaphylactoid reactions

IN CASE OF AN UNEXPECTED EFFECT, CONSULT TO PHYSICIAN

DRUG INTERACTIONS AND OTHER INTERACTIONS
Not reported.

Laboratory Tests Interactions:
As all other cephalosporins, Cephaxon damages the tests for glucose determination in urine in which copper sulphate has been used.

DOSAGE AND ADMINISTRATION
Freshly prepared solutions may be stored under room temperature for 6 hours. Duration for storage at 5°C is 24 hours. However, it should be administered immediately once it has been diluted.

For adults and children older than 12 years:
A single dose is 1-2 gram under normal conditions. It might be risen to 4g in serious cases.

Dosage for children:
Newborn infants: 20-50 mg/kg/day. However, 50 mg/kg/day should not be exceeded, due to undeveloped various enzyme systems of newborn infants.
Children (up to 12 years): 20-80 mg/kg/day

Treatment Duration
The duration of treatment depends on the progress of disease, treatment should proceed until 48-72 hours once the patient’s fever has been brought down or the symptoms have been disappeared.

Meningitis Treatment:
The treatment starts with a single dose at a level of 100mg/kg for children and babies.

Gonorrhoea Treatment:
A single dose of 250 mg is injected.

Pre-operative prophylaxis:
A single dose of 1 to 2 grams is injected every 30-90 minutes before “dirty” operations concerning abdominal or genital organs under high contamination risk.

Dosage in case of Renal Failure:
It is usually not required to lower the dosage in cases of renal function disorders. However, daily doses of 2 grams should not be exceeded in cases which creatinine clearance has decreased below 10 ml/minute.
Intramuscular Injection:
Intramuscular injection of Cephaxon 0.5 g is soluble in lidocaine 2ml and Cephaxon 1.0g is soluble in 3.5ml lidocaine solution of 1%. IV injection is not applicable for Cephaxon solved in lidocaine solution. 2g Cephaxon for infusion is soluble in one of the large volume parenteral solutions which are free of calcium (0.9% sodium chloride, 5% dextrose, 10% dextrose). Against possibility of incompatibility, Cephaxon must not be dissolved in solutions containing other antibacterial agents.

OVERDOSE
Not reported.

STORAGE CONDITIONS:
Keep under 30˚C (room temperature), and do not expose to light.

KEEP IN PLACES OUT OF REACH OF CHILDREN AND KEEP IN ITS PACKAGE

DO NOT USE WITHOUT CONSULTING TO PHYSICIAN

TRADE FORM AND PACKAGE CONTENT:
In a vial containing ceftriaxone disodium 3 ½ H₂O equivalent to 1.0 g Ceftriaxone together with an ampoule containing 10 ml apyrogenic water

Other Trade Forms Available In the Market:
Cephaxon 1.0g IM Injectable Vial
Cephaxon 0.5g IM Injectable Vial
Cephaxon 0.5g IV Injectable Vial

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