X-Gen®
400mg/250mL
I.V. INFUSION
(M o x i f l o x a c i n)

ایکس جین
۴۰۰ ملی گرام/۲۵۰ ملی لیٹر
آئی۔وی۔انفیوژن
(موکسیفلوکساسن)
صرف وریدی استعمال کیلئے

QUALITATIVE AND QUANTITATIVE COMPOSITION:
X-Gen Infusion 400mg/250mL: Each mL contains:
Moxifloxacin Hydrochloride B.P. eq. to Moxifloxacin....1.6mg
Genix Specs.

WARNING: Serious Adverse Reactions Including Tendinitis, Tendon Rupture, Peripheral Neuropathy, Central Nervous System Effects And Exacerbation of Myasthenia Gravis Fluoroquinolones, including X-GEN, have been associated with disabling and potentially irreversible serious adverse reactions that have occurred together including: - Tendinitis and tendon rupture - Peripheral Neuropathy and Central nervous system effects. Discontinue X-GEN immediately and avoid the use of fluoroquinolones, including X-GEN, in patients who experience any of these serious adverse reactions Fluoroquinolones, including X-GEN, may exacerbate muscle weakness in patients with myasthenia gravis. Avoid X-GEN in patients with known history of myasthenia gravis. Because fluoroquinolones, including X-GEN, have been associated with serious adverse reactions reserve X-GEN for use in patients who have no alternative treatment options for the following indications: - Acute bacterial sinusitis - Acute exacerbation of chronic obstructive pulmonary disease including bronchitis.

DESCRIPTION: X-Gen (Moxifloxacin Hydrochloride) is a synthetic antibacterial agent for oral and intravenous administration. It is a slightly yellow to yellow crystalline substance with a molecular weight of 437.9.

CLINICAL PHARMACOLOGY: Mechanism of Action: Moxifloxacin has in vitro activity against a wide range of Gram-positive and Gram-negative pathogens. The bactericidal action of moxifloxacin results from the inhibition of both type II topoisomerases (DNA gyrase and topoisomerase IV) required for bacterial DNA replication, transcription and repair. **Pharmacokinetics: Absorption:** Following oral administration moxifloxacin is rapidly and almost completely absorbed. The absolute bioavailability amounts to approximately 91%. After a single 400mg intravenous 1 hour infusion peak plasma concentrations of approximately 4.1 mg/l were observed at the end of the infusion corresponding to a mean increase of approximately 26% relative to those seen after oral administration (3.1 mg/l). Pharmacokinetics are linear in the range of 50 - 1200 mg single oral dose, up to 600 mg single intravenous dose and up to 600 mg once daily dosing over 10 days. **Distribution:** Moxifloxacin is distributed to extravascular spaces rapidly. The steady-state volume of distribution (Vss) is approximately 2 l/kg. Moxifloxacin is mainly bound to serum albumin. **Metabolism:** The sulphate conjugate (M1) accounts for approximately 38% of the dose, and is eliminated primarily in the faeces. Approximately 14% of an oral or intravenous dose is converted to a glucuronide conjugate (M2), which is excreted exclusively in the urine. Peak plasma concentrations of M2 are approximately 40% those of the parent drug, while plasma concentrations of M1 are generally less than 10% those of moxifloxacin. **Excretion:** Approximately 45% of an oral or intravenous dose of moxifloxacin is excreted as unchanged drug (~20% in urine and ~25% in feces). A total of 96% ± 4% of an oral dose is excreted as either unchanged drug or known metabolites. The mean (± SD) apparent total body clearance and renal clearance are 12 ± 2 L/hr and 2.6 ± 0.5 L/hr, respectively.

INDICATIONS AND USAGE: X-Gen is indicated for the treatment of: Acute bacterial sinusitis, community acquired pneumonia (CAP), Complicated Skin and soft tissue infections / Complicated skin and skin structure infections which have failed to respond to other antibacterial or for patients who cannot be treated with other antibacterial), complicated Intra-Abdominal Infections, Acute exacerbation of chronic obstructive pulmonary disease including bronchitis. - Mild to moderate pelvic inflammatory disease (i.e. infections of female upper genital tract, including salpingitis and endometritis), without an associated tubo-ovarian or pelvic abscess. Moxifloxacin 400 mg film-coated tablets are not recommended for use in monotherapy of mild to moderate pelvic inflammatory disease but should be given in combination with another appropriate antibacterial agent (e.g. a cephalosporin) due to increasing moxifloxacin resistance of Neisseria gonorrhoeae unless moxifloxacin-resistant Neisseria gonorrhoeae can be excluded. Moxifloxacin should be used only when it is considered inappropriate to use antibacterial agents that are commonly recommended for the initial treatment of these infections. Moxifloxacin Ophthalmic solution is indicated for the treatment of bacterial conjunctivitis caused by susceptible strains of the following organisms i.e. Aerobic Gram-positive microorganisms, Aerobic Gram-negative microorganisms, other microorganism e.g. Chlamydia trachomatis

CONTRAINDICATIONS: Moxifloxacin is contraindicated in persons with a history of hypersensitivity to any member of the quinolone class of antibacterial, pregnancy and lactation, patients below 18 years of age, patients with a history of tendon disease/disorder related to quinolone treatment. Acute myocardial infarction (risk factor for QT interval prolongation). bradycardia (risk factor for QT interval prolongation), congenital long QT syndrome (risk factor for QT interval prolongation), electrolyte disturbances (risk factor for QT interval prolongation), heart failure with reduced left ventricular ejection fraction (risk factor for QT interval prolongation), history of symptomatic arrhythmias (risk factor for QT interval prolongation). Due to limited clinical data, moxifloxacin is also contraindicated in patients with impaired liver function (Child Pugh C) and in patients with transaminases increase > 5fold ULN.

INTERACTIONS: Antacids, Sucralfate, Multivitamins and other Products Containing Multivalent Cations: Fluoroquinolones, including X-GEN, form chelates with alkaline earth and transition metal cations. Hence their coadministration with oral Moxifloxacin may result in systemic concentrations considerably lower than desired. Therefore, X-GEN should be taken at least 4 hours before or 8 hours after these agents. **Warfarin:** Fluoroquinolones, including X-GEN, have been reported to enhance the anticoagulant effects of warfarin or its derivatives in the patient population. **Antidiabetic Agents:** Disturbances of blood glucose, including hyperglycaemia and hypoglycemia, have been reported in patients treated concomitantly with fluoroquinolones, including X-GEN, and an antidiabetic agent. **Nonsteroidal Anti-Inflammatory Drugs:** The concomitant administration of a nonsteroidal anti-inflammatory drug (NSAID) with a fluoroquinolone, including X-GEN, may increase the risks of CNS stimulation and convulsions. **Drugs that Prolong QT:** X-GEN should be avoided with Class IA and Class III antiarrhythmic and other drugs that prolong the QTc interval of the electrocardiogram.

USE IN SPECIFIC POPULATION: Pregnancy: The safety of moxifloxacin in human pregnancy has not been evaluated. The potential risk for humans is unknown. Therefore, moxifloxacin must not be used in pregnant women. **Nursing mothers:** There is no data available in lactating or nursing women, therefore breast-feeding is contraindicated during moxifloxacin therapy. **Pediatric Use:** The use of moxifloxacin in children and adolescents < 18 years is contraindicated. **Geriatric Use:** Geriatric patients are at increased risk for developing severe tendon disorders including tendon rupture when being treated with a fluoroquinolone. Caution should be used when prescribing MOXIFLOXACIN to elderly patients especially those on corticosteroids. **Renal impairment:** No dosage adjustment is necessary in patients with renal impairment, including those patients requiring hemodialysis (HD) or continuous ambulatory peritoneal dialysis (CAPD). Elderly patients with renal disorders should use moxifloxacin with caution if they are unable to maintain adequate fluid intake, because dehydration may increase the risk of renal failure. **Hepatic impairment:** No dosage adjustment is recommended for mild, moderate, or severe hepatic insufficiency (Child-Pugh Classes A, B, or C). However, due to metabolic disturbances associated with hepatic insufficiency, which may lead to QT prolongation, Moxifloxacin should be used with caution in these patients.

PRECAUTIONS: Prolongation of QTc interval and potentially QTc-prolongation-related clinical conditions Moxifloxacin has been shown to prolong the QTc interval on the electrocardiogram in some patients. The magnitude of QT prolongation may increase with increasing concentrations of the drug. Therefore, the recommended dose should not be exceeded. If signs of cardiac arrhythmia occur during treatment with moxifloxacin, treatment should be stopped and an ECG should be performed.

Hypersensitivity/allergic reactions: Hypersensitivity and allergic reactions have been reported, anaphylactic reactions can progress to a life-threatening shock, even after the first administration. **Severe liver disorders:** Patients should be advised to contact their doctor prior to continuing treatment if signs and symptoms of fulminant hepatic disease develop such as rapidly developing asthenia associated with jaundice, dark urine, bleeding tendency or hepatic encephalopathy. Liver function tests/investigations should be performed in cases where indications of liver dysfunction occur. **Serious bullous skin reactions:** Cases of bullous skin reactions like Stevens-Johnson syndrome or toxic epidermal necrolysis have been reported with moxifloxacin. **Patients predisposed to seizures:** Quinolones are known to trigger seizures. Use should be with caution in patients with CNS disorders or in the presence of other risk factors which may predispose to seizures or lower the seizure threshold. **Psychiatric reactions:** Psychiatric reactions may occur even after the first administration of quinolones, including moxifloxacin. **Antibiotic-associated diarrhoea incl. colitis:** Antibiotic-associated diarrhoea (AAD) and antibiotic-associated colitis (AAC), including pseudomembranous colitis and Clostridium difficile-associated diarrhoea, has been reported in association with the use of broad spectrum antibiotics including moxifloxacin and may range in severity from mild diarrhoea to fatal colitis. Therefore, it is important to consider this diagnosis in patients who develop serious diarrhoea during or after the use of moxifloxacin. Drugs inhibiting peristalsis are contraindicated in patients who develop serious diarrhoea. **Patients with myasthenia gravis:** Moxifloxacin should be used with caution in patients with myasthenia gravis because the symptoms can be exacerbated. **Vision disorders:** If vision becomes impaired or any effects on the eyes are experienced, an eye specialist should be consulted immediately. **Dysglycemia:** As with all fluoroquinolones, disturbances in blood glucose, including both hypoglycemia and hyperglycaemia have been reported with moxifloxacin. In diabetic patients, careful monitoring of blood glucose is recommended. **Prevention of photosensitivity reactions:** Quinolones have been shown to cause photosensitivity reactions in patients. However, studies have shown that moxifloxacin has a lower risk to induce photosensitivity. Nevertheless, patients should be advised to avoid exposure to either UV irradiation or extensive and/or strong sunlight during treatment with moxifloxacin. **Patients with glucose-6-phosphate dehydrogenase deficiency:** Patients with a family history of, or actual glucose-6-phosphate dehydrogenase deficiency are prone to haemolytic reactions when treated with quinolones. Therefore, moxifloxacin should be used with caution in these patients. Patients with galactose intolerance, Lapp lactase deficiency or glucose-galactose malabsorption: Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine. **Patients with pelvic inflammatory disease:** For patients with complicated pelvic inflammatory disease (e.g. associated with a tubo-ovarian or pelvic abscess), for whom an intravenous treatment is considered necessary, treatment with Moxifloxacin 400 mg film-coated tablets is not recommended. Pelvic inflammatory disease may be caused by fluoroquinolone-resistant Neisseria gonorrhoeae. Therefore, in such cases empirical moxifloxacin should be co-administered with another appropriate antibiotic (e.g. a cephalosporin) unless moxifloxacin-resistant Neisseria gonorrhoeae can be excluded. **Patients with special cSSSI:** Clinical efficacy of intravenous moxifloxacin in the treatment of severe burn infections, fasciitis and diabetic foot infections with osteomyelitis has not been established. **Interference with biological tests:** Moxifloxacin therapy may interfere with the Mycobacterium spp. culture test by suppression of mycobacterial growth causing false negative results in samples taken from patients currently receiving moxifloxacin. **Patients with MRSA infections:** Moxifloxacin is not recommended for the treatment of MRSA infections. In case of a suspected or confirmed infection due to MRSA, treatment with an appropriate antibacterial agent should be started.

ADVERSE REACTIONS: Common or very common: Angina, headache, nausea, vomiting, diarrhoea, dizziness, arrhythmias, constipation, flatulence, gastritis, hyperlipidaemia, palpitation, sweating, vasodilatation, superinfections due to resistant bacteria or fungi e.g. oral and vaginal candidiasis. **Uncommon:** Dyspnoea, anaemia, leukopenia, neutropenia, thrombocytopenia, thrombocythemia, blood eosinophilia prothrombin time prolonged/ INR increased, taste disorders, confusion, sleep disorders, somnolence, tremors, dehydration. **Rare:** Abnormal dreams, amnesia, dysphagia, hyperglycaemia, hypertension, hyperuricaemia, incoordination, myopathy, oedema, peripheral neuropathy, stomatitis, syncope, emotional lability, depression (in very rare cases suicide attempt) Hallucination, speech disorders, amnesia, visual disturbance, pruritus, rash, muscle cramp. **Very rare:** Potentially life-threatening hepatic failure, hypoglycemia, rhabdomyolysis, prothrombin level increased/ INR decreased, agranulocytosis, depersonalization psychotic reactions (potentially culminating in self-injurious behaviour, such as suicidal ideations/ thoughts, or suicide attempts, anaphylactic life-threatening shock, hyperaesthesia, vasculitis. **Specific side effects:** With intravenous use pain at injection site, phlebitis at injection site.

DOSAGE AND ADMINISTRATION: The dose of X-Gen is 400 mg (orally or as an intravenous infusion) once every 24 hours. The duration of therapy depends on the type of infection as described below:

Type pf Infection	Dose (Every 24hours)	Duration (Days)
Community Acquired Pneumonia	400mg	7-14
Uncomplicated Skin & Skin Structure Infections (SSSI)	400mg	7
Complicated SSSI	400mg	7-21
Complicated IntraAbdominal Infections	400mg	5-14
Plague	400mg	10-14
Acute Bacterial Sinusitis (ABS)	400mg	7
Acute exacerbation of chronic obstructive pulmonary disease including bronchitis.	400mg	5-10

For intravenous use: constant infusion over 60 minutes. If medically indicated the solution for infusion can be administered via a T-tube, together with compatible infu-sion solution. **For Ophthalmic Solution:** Instil one drop in the affected eye 3 times a day for 7 days. **Over dosage:** In the event of overdose, symptomatic treatment should be implemented. ECG monitoring should be undertaken, because of the possibility of QT interval prolongation. Concomitant administra-tion of charcoal with a dose of 400 mg oral or intravenous moxifloxacin will reduce systemic availability of the drug by more than 80% or 20% respectively. The use of charcoal early during absorption may be useful to pre-vent excessive increase in the systemic exposure to moxifloxacin in cases of oral overdose.

INSTRUCTIONS: Dosage as directed by the physician.
Store below 30°C. Do not refrigerate, product precipitates upon refrigeration.
Protect from heat and light. Keep all medicinces out of the reach of children.
Avoid freezing and injection should not be used if container is leaking, solution is cloudy or it contains un-dissolved particles.

PRESENTATION: X-Gen (Moxifloxacin Hydrochloride) Tablets 400mg are available in Alu-Alu blister pack of 1x5's. X-Gen (Moxifloxacin Hydrochloride) Infusion 400mg/250mL is available in a pack size of 1's. X-Gen (Moxifloxacin Hydrochloride) Ophthalmic Solution U.S.P. 0.5% is available in bottle containing 5mL Solution with leaflet.

ہدایات: خوراک ڈاکٹر کی ہدایت کے مطابق استعمال کریں۔
۳۰ ڈگری سینٹی گریڈ سے کم درجہ حرارت پر رکھیں۔
روشنی اور گرمی سے محفوظ رکھیں۔
تمام دوائیں بچوں کی پہنچ سے دور رکھیں۔
منجمد ہونے سے بچائیں اور انجکشن کے لیک ہونے، دُھندلا ہونے یا
اس میں کوئی غیر حل پذیر شے نظر آنے کی صورت میں ہرگز استعمال نہ کریں۔

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