**OFLOXACIN TABLETS 200 MG**
(Ofloxacin Tablets USP 200 mg)

**SUMMARY OF PRODUCT CHARACTERISTICS (SmPC)**

**1. Name of the Medicinal Product**

**OFLOXACIN TABLETS 200 MG**

(OFLOXACIN TABLETS USP 200 MG)

**2. Qualitative and Quantitative Composition**

Each film coated tablet contains:

Ofloxacin USP 200 mg

**3.Pharmaceutical Form**

Tablet

**4. Clinical Particulars**

**4.1 Therapeutic indications**

The following indications are restricted to adults.

Ofloxacin is suitable for treatment of the following bacterial infections if these are caused by pathogens sensitive to ofloxacin.

Lower respiratory tract infections including pneumonia, bronchitits and acute exacerbations of chronic bronchitis caused by gram negative aerobic bacteria. (Ofloxacin tablets are not the drug of first choice in pneumonia caused by Streptococcus pneumoniae, Mycoplasma pneumoniae or Chlamydia pneumoniae);

Upper and lower urinary tract infections, including uncomplicated (cystitis) and complicated urinary tract infections.

Uncomplicated urethral and cervical gonorrhoea, non-gonococcal urethritis and cervicitis.

Consideration should be given to official guidance on the appropriate use of anti-bacterial agents.

**4.2 Posology and method of administration**

Posology

The dose of ofloxacin is determined by the type and severity of the infection. The dosage range for adults is 200 mg to 800 mg daily.

Up to 400 mg may be given as a single dose, preferably in the morning. Generally, individual doses should be given at approximately equal intervals.

In individual cases it may be necessary to increase the dose to a maximum total dose of 800 mg daily, which should be given as 400 mg twice daily, at approximately equal intervals. This may be appropriate in infections due to pathogens known to have reduced or variable

susceptibility to ofloxacin, in severe and/or complicated infections (e.g. of the respiratory or urinary tracts) or if the patient does not respond adequately.

The following doses are recommended:

| **Indications** | **Single and Daily Doses** |
|---|---|
| Uncomplicated urethral/ cervical gonorrhoea | 400 mg |
| Uncomplicated lower urinary tract infections | 200 mg-400 mg daily |
| Complicated infections of the upper urinary tract | 400 mg daily, increasing if necessary, to 400 mg twice a day |
| Lower respiratory tract infections | 400 mg daily, increasing, if necessary, to 400 mg twice a day |
| Non-gonococcal urethritis and cervicitis | 400 mg daily |

A single dose of 400 mg of ofloxacin is sufficient for the treatment of uncomplicated gonorrhoea. Special patient populations

**Impaired renal function**

Following a normal initial dose, dosage should be reduced in patients with impairment of renal function as determined by creatinine clearance or plasma creatinine level.

| **Creatinine Clearance** | **Plasma Creatinine** | **Maintenance Dose*** |
|---|---|---|
| 20 to 50 ml/min* | 1.5 to 5 mg/dl | 100 mg - 200 mg ofloxacin per day) |
| <20ml/min** | >5 mg/dl | 100 mg ofloxacin per day |

According to indication or dose interval

The serum concentration of ofloxacin should be monitored in patients with severe renal impairment and dialysis patients.

Patients undergoing haemodialysis or peritoneal dialysis should be given 100 mg ofloxacin per day.

When creatinine clearance cannot be measured, it can be estimated with reference to the serum creatinine level using the following Cockcroft's formula for adults:

$$\text{Men: } ClCr\ (ml/min) = \frac{\text{weight(kg)} \times (140 - \text{age in years})}{72 \times \text{serum creatinine (mg/dl)}}$$

or

$$ClCr\ (ml/min) = \frac{\text{weight(kg)} \times (140 - \text{age in years})}{0.814 \times \text{serum creatinine } (\mu mol/l)}$$

$$\text{Women: } ClCr\ (ml/min) = 0.85 \times (\text{above value})$$

**Impaired liver function**

The excretion of ofloxacin may be reduced in patients with severe hepatic dysfunction. (e.g. cirrhosis of the liver with ascites). In such cases, it is recommended that the dose should not exceed 400 mg ofloxacin daily, because of possible reduction of excretion.

**Paediatric population**

Ofloxacin is contraindicated for use in children or growing adolescents

**Elderly**

No adjustment of dosage is required in the elderly, other than that imposed by consideration of renal or hepatic function.

**Duration**

Treatment should not exceed 2 months duration.

A daily dose of up to 400 mg ofloxacin may be given as a single dose. In this case, it is preferable to administer ofloxacin in the morning. Daily doses of more than 400 mg must be divided into two separate doses and be given at approximately equal intervals.

**Method of administration**

For oral use.

Ofloxacin tablets should be swallowed whole with sufficient liquid before or during meal times. They should not be taken within two hours of mineral antacids, sucralfate or metal ion preparations (aluminium, iron, magnesium or zinc), didanosine chewable or buffered tablets (for HIV), since reduction of absorption of ofloxacin can occur

**4.3 Contraindications**

The use of ofloxacin is contraindicated as follows:

Hypersensitivity to the active substance, to any other fluoroquinolone antibacterials, or to any of the excipients.

In patients with a history of epilepsy or an existing central nervous system disorder with a lowered seizure threshold.

In patients with a history of tendon disorders related to fluoroquinolone administration

In children or growing adolescents, and in pregnant or breastfeeding women, since animal experiments do not entirely exclude the risk of damage to the growth-plate cartilage in the growing organism cannot be entirely excluded.

In patients with latent or actual defects in glucose-6-phosphate dehydrogenase activity because they may be prone to haemolytic reactions when treated with quinolone antibacterial agents.

**4.4 Special warnings and precautions for use**

Ofloxacin tablets are not the drug of first choice in pneumonia caused by Streptococcus pneumoniae or Chlamydia pneumoniae.

**Methicillin-resistant S. aureus**

Are very likely to possess co-resistance to fluoroquinolones, including ofloxacin. Therefore ofloxacin is not recommended for the treatment of known or suspected MRSA infections unless laboratory results have confirmed susceptibility of the organism to ofloxacin (and commonly recommended antibacterial agents for the treatment of MRSA-infections are considered inappropriate).

**Resistance to fluoroquinolones of E. coli**

The most common pathogen involved in urinary tract infections – varies across the European Union. Prescribers are advised to consider the local prevalence of resistance in E. coli to fluoroquinolones.

**Severe bullous reactions**

Cases of severe bullous skin reactions such as Stevens-Johnson syndrome or toxic epidermal necrolysis have been reported with ofloxacin Patients should be advised to contact their doctor immediately prior to continuing treatment if skin and/or mucosal reactions occur.

**Tendonitis**

Tendonitis, rarely observed with quinolones, may occasionally lead to rupture involving Achilles tendon in particular. Tendinitis and tendon rupture, sometimes bilateral, may occur within 48 hours of starting treatment with ofloxacin and have been reported up to several months after discontinuation of ofloxacin. The risk of tendinitis and tendon rupture is increased in patients aged over 60 years and in patients using corticosteroids. The daily dose should be adjusted in elderly patients based on creatinine clearance Close monitoring of these patients is therefore necessary if they are prescribed ofloxacin. All patients should consult their physician if they experience symptoms of tendinitis. If tendinitis is suspected, treatment with ofloxacin must be halted immediately, and appropriate treatment (e.g. immobilisation) must be initiated for the affected tendon.

**Hypersensitivity**

Hypersensitivity and allergic reactions have been reported for fluoroquinolones after first administration. Anaphylactic and anaphylactoid reactions can progress to life-threatening shock, even after the first administration. In these cases ofloxacin should be discontinued and suitable treatment (e.g. treatment for shock) should be initiated.

**Diseases caused by Clostridium difficile**

Diarrhoea, especially if severe, persistent and/or bloody, occurring during or after treatment with ofloxacin (including several weeks after treatment), may indicate a condition caused by Clostridium difficile, the most severe form of which is pseudomembranous colitis (CDAD) CDAD may range in severity from mild to life threatening, the most severe form of which is

pseudomembranous colitis .It is therefore important to consider this diagnosis in patients who develop serious diarrhoea during or after treatment with ofloxacin. If pseudo-membraneous colitis is suspected, treatment should be discontinued immediately.

Appropriate specific antibiotic therapy must be started without delay (e.g. oral vancomycin, oral teicoplanin or metronidazole). Medicinal products that inhibit peristalsis are contraindicated in such cases.

**Patients predisposed to seizures**

Quinolones may lower the seizure threshold and may trigger seizures. Ofloxacin is contraindicated in patients with a history epilepsy or with a known predisposition to seizures

Patients with a known predisposition to seizures may include those with pre-existing central nervous system lesions, concomitant treatment with fenbufen and similar non-steroidal anti-inflammatory drugs (NSAIDs), or with drugs which lower the cerebral seizure threshold, such as theophylline.

In case of convulsive seizures, treatment with ofloxacin should be discontinued.

**Patients with impaired renal function**

Since ofloxacin is eliminated primarily via the kidneys, the dose should be adjusted in patients with impaired renal function.

**Patients with history of psychotic disorder**

Psychotic reactions have been reported in patients receiving fluoroquinolones including ofloxacin. In some cases these have progressed to suicidal thoughts or self-endangering behavior including suicide attempt, sometimes after a single dose of ofloxacin. In the event that a patient develops these reactions, ofloxacin should be discontinued and appropriate measures instituted.

Ofloxacin should be used with caution in patients with a history of psychotic disorder or in patients with psychiatric disease.

**Patients with impaired liver function**

Ofloxacin should be used with caution in patients with impaired liver function, as liver damage may occur. Cases of fulminant hepatitis potentially leading to liver failure (including fatal cases) have been reported with fluoroquinolones. Patients should be advised to stop treatment and contact their doctor if signs and symptoms of hepatic disease develop such as anorexia, jaundice, dark urine, pruritus or tender abdomen.

**Patients treated with vitamin K antagonists**

Due to possible increase in coagulation tests (PT/INR) and/or bleeding in patients treated with fluoroquinolones, including ofloxacin, in combination with a vitamin K antagonist (e.g. warfarin), coagulation tests should be monitored when these drugs are given concomitantly.

**Myasthenia gravis**

Fluoroquinolones, including ofloxacin, have neuromuscular blocking activity and may exacerbate muscle weakness in patients with myasthenia gravis. Postmarketing serious adverse reactions, including deaths and the requirement for respiratory support, have been associated with fluoroquinolone use in patients with myasthenia gravis. Ofloxacin is not recommended in patients with a known history of myasthenia gravis.

**Superinfection**

As with other antibiotics, the use of ofloxacin, especially if prolonged, may result in overgrowth of non-susceptible organisms, especially Enteracci, resistant strains of some organisms or Candida. Repeated evaluation of the patient's condition is essential and periodic in vitro susceptibility tests may be useful. If secondary infection occurs during therapy, appropriate measures should be taken.

**Prevention of photosensitisation**

Photosensitisation has been reported with ofloxacin. It is recommended that patients should not expose themselves unnecessarily to strong sunlight or to artificial UV rays (e.g. sunray lamp, solarium), during treatment and for 48 hours following treatment discontinuation in order to prevent photosensitisation.

**QT interval prolongation**

Very rare cases of QT interval proplongation have been reported in patients taking fluoroquinolones.

Caution should be taken when using fluoroquinolones, including ofloxacin, in patients with known risk factors for prolongation of the QT interval such as, for example:

elderly patients and women may be more sensitive to QTc-prolonging medications. Therefore, caution should be taken when using fluoroquinolones, including ofloxacin, in these populations.

uncorrected electrolyte imbalance (e.g. hypokalemia, hypomagnesemia) - congenital long QT syndrome

concomitant use of drugs that are known to prolong the QT interval (e.g. Class IA and III anti-arrhythmics, tricyclic antidepressants, macrolides, antipsychotics)

cardiac disease (e.g. heart failure, myocardial infarction, bradycardia)

**Dysglycaemia**

As with all quinolones, disturbances in blood glucose, including both hypoglycaemia and hyperglycaemia have been reported, usually in diabetic patients receiving concomitant treatment with an oral hypoglycaemic agent (e.g., glibenclamide) or with insulin. Cases of hypoglycaemic coma have been reported. In these diabetic patients, careful monitoring of blood glucose is recommended.

**Peripheral neuropathy**

Sensory or sensorimotor peripheral neuropathy has been reported in patients receiving fluoroquinolones, including ofloxacin, which can be rapid in its onset. Ofloxacin should be discontinued if the patient experiences symptoms of neuropathy. This would minimise the possible risk of developing an irreversible condition.

**Patients with glucose-6-phosphate-dehydrogenase deficiency**

Patients with latent or diagnosed glucose-6-phosphate-dehydrogenase deficiency may be predisposed to haemolytic reactions if they are treated with quinolones. Therefore if ofloxacin has to be used in these patients, potential occurrence of haemolysis should be monitored.

**Interference with laboratory tests**

In patients treated with ofloxacin, determination of opiates or porphyrin levels in urine may give false-positive results. It may be necessary to confirm positive opiate or porphyrin screens by more specific methods.

**Vision disorders**

If vision becomes impaired or any effects on the eyes are experienced, an eye specialist should be consulted immediately.

**Excipient with known effect**

Ofloxacin contains lactose anhydrous. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency, or glucose-galactose malabsorption should not take this medicine.

For treatment of severe and/or life-threatening infections parenteral therapy is indicated.

**4.5 Interaction with other medicinal products and other forms of interaction**

**Antacids, Sucralfate, Metal Cations**

Co-administered magnesium/aluminum antacids, sucralfate, zinc or iron preparations and didanosine chewable/buffered tablets can reduce absorption of ofloxacin tablets. Therefore, ofloxacin should be taken 2 hours before such preparations.

**Theophylline, fenbufen or similar non-steroidal anti-inflammatory drugs**

No pharmacokinetic interactions of ofloxacin were found with theophylline in a clinical study. However, a pronounced lowering of the cerebral seizure threshold may occur when quinolones are given concurrently with theophylline, nonsteroidal antiinflammatory drugs, or other agents, which lower the seizure threshold.

**Probenecid, cimetidine, furosemide, and methotrexate**

Probenecid decreased the total clearance of ofloxacin by 24%, and increased AUC by 16%. The proposed mechanism is a competition or inhibition for active transport at the renal

tubular excretion. Caution should be exercised when ofloxacin is coadministered with drugs that affect the tubular renal secretion such as probenecid, cimetidine, furosemide and methotrexate.

**Drugs known to prolong QT interval**

Ofloxacin, like other fluoroquinolones, should be used with caution in patients receiving drugs known to prolong the QT interval (e.g. Class IA and III antiarrhythmics, tricyclic antidepressants, macrolides, and antipsychotics).

**Vitamin K antagonists**

Increased coagulation tests (PT/INR) and/or bleeding, which may be severe, have been reported in patients treated with ofloxacin in combination with a vitamin K antagonist (e.g. warfarin). Coagulation tests should, therefore, be monitored in patients treated with vitamin K antagonists because of a possible increase in the effect of coumarin derivatives

**Glibenclamide**

Ofloxacin may cause a slight increase in plasma glibenclamide levels when administered concurrently, it is therefore recommended that patients treated concomitantly with ofloxacin and glibenclamide be monitored particularly closely. Since hypoglycaemia is then more likely to occur, close monitoring of blood sugar levels is recommended in such cases.

## 4.6 Fertility, pregnancy and lactation

**Pregnancy**

Based on a limited amount of human data, the use of fluoroquinolones in the first trimester of pregnancy has not been associated with an increased risk of major malformations or other adverse effects on pregnancy outcome. Animal studies have shown damage to the joint cartilage in immature animals but no teratogenic effects. Therefore ofloxacin must not be used during pregnancy.

**Breast-feeding**

Ofloxacin is excreted into human breast milk in small amounts. Because of the potential for arthropathy and other serious toxicity in the nursing infant, breast-feeding should be discontinued during treatment with ofloxacin.

## 4.7 Effects on ability to drive and use machines

Since there have been occasional reports of drowsiness/somnolence, impairment of skills, dizziness/vertigo and visual disturbances, which may impair the patient's ability to concentrate and react, and therefore may constitute a risk in situations where these abilities are of special importance (e.g. driving a car or operating machinery), patients should know

how they react to ofloxacin before they drive or operate machinery. These effects may be enhanced by alcohol.

### 4.8 Undesirable effects

The information given below is based on data from clinical studies and on extensive post marketing experience.

| **System organ class** | **Uncommon (≥1/1,000 to <1/100)** | **Rare (≥1/10,000 to <1/1,000)** | **Very rare (< 1/10,000)** | **Not known (cannot be estimated from available data)*** |
|---|---|---|---|---|
| Infections and infestations | Fungal infection, Pathogen resistance | | | |
| Blood and lymphatic system disorders | | | Anaemia, Haemolytic anaemia, Leucopenia, Eosinophilia, Thrombocytopenia | Agranulocytosis, Bone marrow failure, Pancytopenia |
| Immune system disorders | | Anaphylactic reaction*, Anaphylactoid reaction*, Angioedema* | Anaphylactic shock*, Anaphylactoid shock* | |
| Metabolism and Nutrition disorders | | Anorexia | | Hypoglycaemia in diabetics treated with hypoglycaemic agents, Hyperglycaemia, Hypoglycaemic coma |
| Psychiatric disorders | Agitation, Sleep disorder, Insomnia | Psychotic disorder (for e.g. hallucination), Anxiety, Confusional state, Nightmares, Depression | | Psychotic disorder and depression with self-endangering behaviour including suicidal ideation or suicide attempt Nervousness |
| Nervous system disorders | Dizziness, Headache | Somnolence, Paraesthesia, Dysgeusia, Parosmia | Peripheral sensory neuropathy*, Peripheral sensory motor neuropathy* , Convulsion*, Extra-pyramidal symptoms or other disorders of muscular coordination | Tremor, Dykinesia, Ageusia, Syncope |
| Eye disorders | Eye irritation | Visual disturbance | | Uveitis |

| | | | | |
|---|---|---|---|---|
| Ear and labyrinth disorders | Vertigo | | Tinnitus,<br>Hearing loss | Hearing impaired |
| Cardiac disorders | | Tachycardia | | Ventricular arrhythmias and torsades de pointes (reported predominantly in patients with risk factors for QT prolongation),<br>ECG QT prolonged |
| Vascular disorders | | Hypotension | | |
| Respiratory, thoracic and mediastinal disorders | Cough,<br>Nasopharyngitis | Dyspnoea,<br>Bronchospasm | | Allergic pneumonitis,<br>Severe dyspnoea |
| Gastrointestinal disorders | Abdominal pain,<br>Diarrhoea,<br>Nausea,<br>Vomiting | Enterocolitis, sometimes haemorrhagic | Pseudomembranous colitis* | Dyspepsia,<br>Flatulence,<br>Constipation,<br>Pancreatitis |
| Hepatobiliary disorders | | Hepatic enzymes increased (ALAT, ASAT, LDH, gamma-GT and/or alkaline phosphatase),<br>Blood bilirubin increased | Jaundice cholestatic | Hepatitis, which may be severe*<br>Severe liver injury, including cases with acute liver failure, sometimes fatal, have been reported with ofloxacin, primarily in patients with underlying liver disorders. |
| Skin and subcutaneous tissue disorders | Pruritus,<br>Rash | Urticaria,<br>Hot flushes,<br>Hyperhidrosis<br>Pustular rash | Erythema multiforme,<br>Toxic epidermal necrolysis,<br>Photo-sensitivity reaction*,<br>Drug eruption ,<br>Vascular purpura,<br>Vasculitis, which can lead in exceptional cases to skin necrosis | Stevens-Johnson syndrome,<br>Acute generalised exanthemous pustulosis,<br>Drug rash,<br>Stomatitis<br>Exfoliative dermatitis |
| Musculoskeletal and connective tissue disorders | | Tendonitis | Arthralgia,<br>Myalgia,<br>Tendon rupture (e.g. Achilles tendon) which may occur within 48 hours of treatment start and may be bilateral | Rhabdomyolysis and/or Myopathy,<br>Muscular weakness,<br>Muscle tear,<br>Muscle rupture,<br>Ligament rupture,<br>Arthritis |

| | | | | |
|---|---|---|---|---|
| Renal and urinary disorders | | Serum creatinine increased | Acute renal failure | Acute interstitial nephritis |
| Congenital, familial and genetic disorders | | | | Attacks of porphyria in patients with porphyria |
| General disorders and administration site conditions | | | | Asthenia, Pyrexia, Pain (including pain in back, chest and extremities) |

* postmarketing experience

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme

**4.9 Overdose**

**Symptoms**

The most important signs to be expected following acute overdose are CNS symptoms such as confusion, dizziness, impairment of consciousness and convulsive seizures increases in QT interval as well as gastrointestinal reactions such as nausea and mucosal erosions.

CNS effects including confusional state, convulsion, hallucination, and tremor have been observed in post marketing experience.

**Management**

In the case of overdose steps to remove any unabsorbed ofloxacin e.g. gastric lavage, administration of adsorbants and sodium sulphate, if possible during the first 30 minutes, are recommended; antacids are recommended for protection of the gastric mucosa.

In the event of overdose, symptomatic treatment should be implemented. ECG monitoring should be undertaken, because of the possibility of QT interval prolongation. Antacids may be used for protection of gastric mucosa. A fraction of ofloxacin may be removed from the body with haemodialysis. Peritoneal dialysis and CAPD are not effective in removing ofloxacin from the body. No specific antidote exists.

Elimination of ofloxacin may be increased by forced diuresis.

**5. Pharmacological properties**

**5.1 Pharmacodynamic properties**

Pharmacotherapeutic group: Quinolone Antibacterials, Fluoroquinolones

**OFLOXACIN TABLETS 200 MG**
(Ofloxacin Tablets USP 200 mg)

ATC code: J01 MA 01

**Mechanism of action**

Ofloxacin inhibits bacterial DNA replication by inhibiting bacterial topoisomerases, particularly DNA gyrase and topoisomerase IV. It is active after oral administration.

Therapeutic doses of ofloxacin are devoid of pharmacological effects on the voluntary or autonomic nervous system. The NCCLS MIC breakpoint recommendations are as follows:

S ≤ 2 mg/l and R ≥ 1 mg/l

Haemophilus influenzae and Neisseria gonorrhoea are exceptions with breakpoints at S ≤ 0.25 mg/l and R ≥ 1 mg/l

The BSAC general recommendations are S ≤ 2 mg/l and R ≥ 4 mg/l

According to DIN 58 940, the following limits apply for ofloxacin:

S ≤ 1 mg/L, I = 2 mg/L, R ≥ 4 mg/L.

The prevalence of resistance may vary geographically and with time for selected species and local information on resistance is desirable, particularly when treating severe infections. This information gives only an approximate guidance on probabilities whether micro-organisms will be susceptible to ofloxacin or not.

Only those pathogens relevant to the indications are listed.

| | European range of acquired bacterial resistance to ofloxacin |
|---|---|
| **Normally susceptible** | |
| **Aerobic Gram-positive micro organisms** | |
| S. aureus - methicillin-sensitive | 0.3-12.6% |
| S. pyogenes | 2-5% |
| **Aerobic Gram-negative micro organisms** | |
| Acinetobacter spp | 0.3-7.3% |
| Citrobacter spp. | 3-15% |
| Enterobacter spp. | 2-13% |
| E. coli | 1-8% |
| H. influenzae | 1% |
| Klebsiella spp. | 1-10% |
| Moraxella spp. | 0-0.2% |
| Morganella morganii | 0-6.9% |
| N. gonorrhoeae | 25% |
| Proteus spp. | 1-15% |
| Serratia marcescens | 2-2.4% |
| **Others** | |
| Chlamydia spp | |
| L. pneumophila | |
| **Intermediately susceptible** | |

| | |
|---|---|
| **Aerobic Gram-positive micro organisms** | |
| S. pneumoniae | 70% |
| Providentia | 17.1% |
| **Aerobic Gram-negative micro organisms** | |
| E. faecalis | 50% |
| P. aeruginosa | 20-30% |
| Serratia spp. | 20-40% |
| Stenotrophomonas maltophilia | 5.1-11% |
| **Others** | |
| Mycoplasma spp. | 0-5.3% |
| Ureaplasma spp. | 0-2.1% |
| | |
| **Resistant** | |
| **Anaerobic bacteria** | |
| S. aureus - methicillin-resistant | 69.2-85.7% |
| T. pallidum | |

**Resistance**

The main mechanism of bacterial resistance to ofloxacin involves one or more mutations in the target enzymes, which generally confer resistance to other active substances in the class. Efflux pump and impermeability mechanisms of resistance have also been described and may confer variable resistance to active substances in other classes.

**5.2 Pharmacokinetic properties**

**Absorption**

The administration of oral doses to fasting volunteers was followed by a rapid and almost complete absorption of ofloxacin. The peak plasma concentration after a single oral dose of 200mg averaged 2.6 µg/ml and was reached within one hour. The plasma elimination half-life was 5.7 to 7.0 hours and was not dose related.

**Distribution**

The apparent distribution volume was 120 litres. The plasma concentration did not materially rise with repeat doses (accumulation factor for twice daily dosage: 1.5). The plasma protein binding was approx. 25%.

**Biotransformation**

The biotransformation of ofloxacin was below 5%. The two main metabolites found in the urine were N-desmethyl-ofloxacin and ofloxacin-N-oxide.

**Elimination**

Excretion is primarily renal. Between 80 and 90% of the dose were recovered from the urine as unchanged substance.

Ofloxacin was present in the bile in glucuronidised form. The pharmacokinetics of ofloxacin after intravenous infusion are very similar to those after oral doses. The plasma half-life is prolonged in persons with renal insufficiency; total and renal clearance decrease in accordance with the creatinine clearance. In renal insufficiency the dose should be reduced. No clinically relevant interactions were seen with food and no interaction was found between ofloxacin and theophylline.

**5.3 Preclinical safety data**

Preclinical effects in conventional studies of safety pharmacology, acute toxicity, repeated dose toxicity, reproductive studies were observed only at exposures considered sufficiently in excess of the maximum human exposure indicating little relevance to clinical use. Joint toxicity was observed at exposure in the human therapeutic range in juvenile rats and dogs. Ofloxacin exhibits a neurotoxic potential and causes reversible testicular alterations at high doses.

Mutagenicity studies showed no evidence for mutagenicity of ofloxacin. However, like some other quinolones Ofloxacin is phototoxic in animals at exposure in the human therapeutic range. The phototoxic, photomutagenic and photocarcinogenic potential of ofloxacin is comparable with that of other gyrase inhibitors.

Preclinical data from conventional genotoxicity studies reveal no special hazard to humans, carcinogen potential has not be investigated.

**Reproduction toxicity**

Ofloxacin has no effect on fertility, peri- or postnatal development, and therapeutic doses did not lead to any teratogenic or other embryotoxic effects in animals. Ofloxacin crosses the placenta and levels reached in the amniotic fluid are about 30% of the maximal concentrations measured in maternal serum.

**6. Pharmaceutical particulars**

**6.1 List of excipients**

- Starch
- Dibasic Calcium Phosphate
- Lactose
- P.V.P.K-30
- M.C.C. P
- Sodium Methyl Paraben
- Sodium Propyl Paraben
- Magnesium Stearate

- Purified Talc
- Aerosil
- Sodium Starch Glycolate
- Purified Water

**6.2 Incompatibilities**

Not applicable

**6.3 Shelf life**

3 years

**6.4 Special precautions for storage**

Store at temperature below 30°C. Protect from light.

**6.5 Nature and contents of container**

Blister pack of 1 x 10 Tablet in a carton.

**6.6 Special precautions for disposal and other handling**

No special requirements.

**7. Manufacturer name**

Alpa Laboratories Limited
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**8. Marketing Authority**

EVERLIVING PHARMACY LTD.,
IGWILO'S COMPOUND, OPPOSITE ATUMADU FILLING STATION,
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NIGERIA