Malta Pharmaceutical Students Association Contribution

STUDENT EXCHANGE PROGRAMME IN MALTA

The Malta Pharmaceutical Students' Association, MPSA was founded in 1966 and was recognized by senate in 1985. It represents pharmaceutical students within the pharmacy department in the Faculty of Medicine and Surgery, within the University of Malta.

MPSA is an active member of IPFS, the International Pharmaceutical Students' Federation, which works to bring pharmacy students from all over the world together. The International Pharmaceutical Students' Federation (IPSF) is the leading international advocacy organisation for pharmacy students with the aim to promote improved public health through provision of information, education, networking as well as a range of publications and professional initiatives. Student Exchange Programme (SEP) is one of the main activities in IPSF. It is a mobility programme that gives students from all over the world the opportunity to get to know pharmacy in a different country.

One of the main activities in IPSF is the Student Exchange Programme (SEP). This is a mobility programme that has allowed students from IPSF member organisations and IPSF Individual Members to explore pharmacy in another country since 1953.

Through the Student Exchange Programme, IPSF works to increase opportunities for improvement in pharmacy education through facilitating students and young pharmacists to undertake international professional experiences in community pharmacy, hospital pharmacy, research and industrial fields of pharmacy.

The aim of SEP is to promote understanding and cooperation amongst pharmacy students and all health care professionals. The exchange programme offers a unique educational and cultural experience in addition to the regular pharmaceutical knowledge. It also helps to broaden the students' understanding of pharmaceutical and social conditions in different countries.

The following is the experience of Tijana Rakic, a student who participated in SEP in Malta last Summer:

"Thinking about my SEP in Malta, I can't help missing it badly. Honestly, everything was absolutely perfect. I had professional training at St. Simon's Pharmacy in Bugibba where I had the opportunity to exchange knowledge with colleagues and to learn a lot. I became familiar with the organization of the Maltese Health System. I learned about the way they take care of their patients and also therapeutic choices in the management of common illnesses.

The accommodation at the Student's Residence was really nice. I was happy to be there with people from all over the world who came on SEP as well. We were having fun together and we enjoyed a lot visiting the beautiful historical and cultural treasures of Malta and Gozo. I really have to thank Martina Mifsud who was always there for us, not only as a professionalist dealing with our SEP problems, but also as our friend. "

Fabienne Sant Portanier, a pharmacist practising in a community pharmacy reports on her experience in hosting a student through the SEP programme:
"The Student Exchange Programme (SEP) is a mobility program that offers pharmacy students a unique opportunity to gain a wider pharmacy experience from an international perspective. As a Maltese pharmacist who recently had the opportunity to host a Slovenian pharmacy student, I feel that this initiative is one that should be highly encouraged and supported. During the four-week visit the exchange student was acquainted with a variety of community pharmacy-related activities and was given the chance to practice pharmacy in a local setting with different methods and customs. It has been undoubtedly an unforgettable experience. The program serves as an educational tool and has immense personal benefit for all those involved."

Pharmacists who are interested in hosting students can ask for more information by contacting the national Student Exchange Officer (SEO) Charlene Galea by email on char_mt@hotmail.com

Targets bacteria

Levoxa

Levofloxacin 500mg tablets
Fluoroquinolone

Composition: Levofloxacin 500 mg film coated tablets. **Therapeutic indications:** In adults with infections of mild or moderate severity, Levoxa tablets are indicated for the treatment of the following infections when due to levofloxacin-susceptible microorganisms: Acute sinusitis, Acute exacerbations of chronic bronchitis, Community-acquired pneumonia, Urinary tract infections including pyelonephritis, Chronic bacterial prostatitis and Skin and soft tissue infections. Before prescribing Levoxa, consideration should be given to national and/or local guidance on the appropriate use of fluoroquinolone. **Posology and method of administration:** *Duration of treatment* - varies according to the course of the disease. As with antibiotic therapy in general, administration of Levoxa tablets should be continued for a minimum of 48 to 72 hours after the patient has become afebrile or evidence of bacterial eradication has been obtained. *Method of administration* - Levoxa tablets should be swallowed without crushing and with sufficient amount of liquid. They may be divided at the score line to adapt the dosage. The tablets may be taken during meals or between meals. Levoxa tablets should be taken at least two hours before or after iron salts, antacids and sucralfate administration since reduction of absorption can occur. The following dose recommendations can be given for Levoxa: *Dosage in patients with normal renal function (creatinine clearance > 50 ml/min)* - Acute sinusitis: 500mg once daily; 10-14 days, Acute exacerbations of chronic bronchitis: 250-500mg once daily; 7-10 days, Community-acquired pneumonia: 500mg once or twice daily; 7-14 days, Uncomplicated urinary tract infections: 250mg once daily; 3 days, Complicated urinary tract infections including pyelonephritis: 250mg once daily; 7-10 days, Chronic bacterial prostatitis: 500mg once daily; 28 days, Skin and soft tissue infections: 250mg once daily or 500mg once/ twice daily for 7-14 days. *Dosage in patients with impaired renal function (creatinine clearance 50ml/min):* 50-20 ml/min: First dose 250mg/24h, then 125mg/24h, First dose 500mg/24h, then 250mg/ 24h, First dose500mg/12h, then 250mg/ 12h; 19-10 ml/min: First dose 250mg/24h, then 125mg/48h, First dose 500mg/24h, then 125mg/ 24h, First dose 500mg/12h, then 125mg/ 12h; <10 ml/min (including haemodialysis and CAPD): First dose 250mg/24h, then 125mg/48h, First dose 500mg/24h, then 125mg/ 24h, First dose 500mg/12h, then 125mg/ 24h. *Patients with impaired liver function:* have not been examined in clinical studies. However, no adjustment of dosage is expected to be necessary, since levofloxacin is not metabolised to any great extent by the liver and is mainly excreted by the kidneys. *Elderly patients:* No adjustment of dosage is required in the elderly, other than that imposed by consideration of renal function. **Contraindications:** hypersensitivity to levofloxacin or other quinolones or any of the excipients, epilepsy, history of tendon disorders related to fluoroquinolone administration, children or growing adolescents, pregnancy and breast-feeding women. **Special warnings and precautions for use:** Levoxa is not always the optimal therapy in pneumococcal pneumonia, particularly in more severe cases. Nosocomial infections due to *Pseudomonas aeruginosa* may require combination therapy. *Tendinitis and tendon rupture:* The risk of tendinitis and tendon rupture is increased in the elderly and in patients using corticosteroids. Close monitoring of these patients is therefore necessary if they are prescribed Levoxa. All patients should consult their physician immediately if they experience symptoms of tendinitis. If tendinitis is suspected, treatment with Levoxa must be stopped immediately, and appropriate treatment (e.g. immobilisation) must be initiated for the affected tendon. *Clostridium difficile-associated disease:* Diarrhoea, particularly if severe, persistent and/or bloody, during or after treatment with Levoxa tablets, may be symptomatic of Clostridium difficile-associated disease, the most severe form of which is pseudomembranous colitis. If pseudomembranous colitis is suspected, Levoxa tablets must be stopped immediately and patients should be treated with supportive measures and specific therapy as appropriate without delay (e.g. oral vancomycin). Products inhibiting the peristalsis are contraindicated in this clinical situation. *Patients predisposed to seizures:* Levoxa tablets are contraindicated in patients with a history of epilepsy and, as with other quinolones, should be used with extreme caution in patients predisposed to seizures, such as patients with pre-existing central nervous system lesions, concomitant treatment with fenbufen and similar non-steroidal anti-inflammatory drugs or with drugs which lower the cerebral seizure threshold, such as theophylline. *Patients with G-6-phosphate dehydrogenase deficiency:* Patients with latent or actual defects in glucose-6-phosphate dehydrogenase activity may be prone to haemolytic reactions when treated with quinolone antibacterial agents, and so levofloxacin should be used with caution. *Patients with renal impairment:* Since levofloxacin is excreted mainly by the kidneys, the dose of Levoxa should be adjusted in patients with renal impairment. *Prevention of photosensitisation:* Although photosensitisation is very rare with levofloxacin, it is recommended that patients should not expose themselves unnecessarily to strong sunlight or to artificial UV rays (e.g. sunray lamp, solarium), in order to prevent photosensitisation. *Patients treated with Vitamin K antagonists:* Due to possible increase in coagulation tests (PT/INR) and/or bleeding in patients treated with Levoxa in combination with a vitamin K antagonist (e.g. warfarin), coagulation tests should be monitored when these drugs are given concomitantly. *Psychotic reactions:* Psychotic reactions have been reported in patients receiving quinolones, including levofloxacin. In very rare cases these have progressed to suicidal thoughts and self-endangering behaviour-sometimes after only a single dose of levofloxacin. In the event that the patient develops these reactions, levofloxacin should be discontinued and appropriate measures instituted. Caution is recommended if levofloxacin is to be used in psychotic patients or in patients with history of psychiatric disease. *QT prolongation:* Very rare cases of QT interval prolongation have been reported in patients taking fluoroquinolones, including levofloxacin. Caution should be taken when using fluoroquinolones, including levofloxacin in patients with known risk factor for QT interval prolongation, like for example, elderly, uncorrected electrolyte imbalance (i.e hypokalaemia, hypomagnesaemia), congenital long QT syndrome, cardiovascular diseases (i.e cardiac failure, myocardial infarction, bradycardia) concomitant use of drugs known to prolong the QT interval (i.e IA and III class antiarrhythmics, tricyclic antidepressants, neuroleptics, macrolides). Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine. **Interaction with other medicinal products and other forms of interaction:** Iron salts, magnesium- or aluminium-containing antacids: Levofloxacin absorption is significantly reduced when iron salts, or magnesium- or aluminium-containing antacids are administered concomitantly with Levoxa tablets. It is recommended that preparations containing divalent or trivalent cations such as iron salts, or magnesium- or aluminium-containing antacids should not be taken 2 hours before or after Levoxa tablet administration. No interaction was found with calcium carbonate. Sucralfate: The bioavailability of Levoxa tablets is significantly reduced when administered together with sucralfate. If the patient is to receive both sucralfate and Levoxa, it is best to administer sucralfate 2 hours after the Levoxa tablet administration. *Contraceptive pill:* Some antibiotics can in rare cases reduce the efficacy of contraceptive pills by interfering with bacterial hydrolysis of the steroid conjugate in the intestine and thereby the re-absorption of the unconjugated steroid. The plasma levels of the active steroid would by this means be reduced. *Theophylline, fenbufen or similar non-steroidal anti-inflammatory drugs:* No pharmacokinetic interactions of levofloxacin 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, non-steroidal anti-inflammatory drugs, or other agents which lower the seizure threshold. Levofloxacin concentrations were about 13% higher in the presence of fenbufen than when administered alone. *Probenecid and cimetidine:* Probenecid and cimetidine had a statistically significant effect on the elimination of levofloxacin. The renal clearance of levofloxacin was reduced by cimetidine (24%) and probenecid (34%). This is because both drugs are capable of blocking the renal tubular secretion of levofloxacin. However, at the tested doses in the study, the statistically significant kinetic differences are unlikely to be of clinical relevance. Caution should be exercised when levofloxacin is coadministered with drugs that effect the tubular renal secretion such as probenecid and cimetidine, especially in renally impaired patients. Ciclosporin: The half life of ciclosporin was increased by 33% when coadministered with levofloxacin. *Vitamin K antagonists:* Increased coagulation tests (PT/INR) and/or bleeding, which may be severe, have been reported in patients treated with levofloxacin in combination with a vitamin K antagonist (e.g. warfarin). Coagulation tests, therefore, should be monitored in patients treated with vitamin K antagonists. *Meals:* There is no clinically relevant interaction with food. Levoxa tablets may therefore be administered regardless of food intake. *Drugs known to prolong QT interval:* Levofloxacin, 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, neuroleptics, macrolides). *Laboratory tests:* In patients treated with levofloxacin, determination of opiates in urine may give false-positive results. It may be necessary to confirm positive opiate screens by more specific methods. **Pregnancy and lactation:** *Pregnancy* - Reproductive studies in animals did not raise specific concern. However in the absence of human data and due to the experimental risk of damage by fluoroquinolones to the weight-bearing cartilage of the growing organism, Levoxa tablets must not be used in pregnant women. *Lactation* - There is no information on whether levofloxacin is excreted in breast milk. Levoxa tablets must therefore not be used during breast-feeding. Other quinolones cross into breast milk in amounts that may affect the child even at therapeutic doses. **Effects on ability to drive and use machines:** Some undesirable effects (e.g. dizziness/vertigo, drowsiness, visual disturbances) 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). **Undesirable effects:** Very common (≥1/10), Common (≥1/100 to <1/10), Uncommon (≥1/1,000 to <1/100), Rare (≥1/10,000 to <1/1,000) and Very rare (≤1/10,000), including isolated reports. *Infections and infestations:* Uncommon: fungal overgrowth and proliferation of other resistant microorganisms. *Blood and the lymphatic system disorders: Uncommon:* eosinophilia, leukopenia; Rare: neutropenia, thrombocytopenia; Very rare: agranulocytosis; isolated cases: haemolytic anaemia, pancytopenia. *Immune system disorders:* Very rare: Allergic reactions (angioedema, hypotension, anaphylactic-like shock), allergic pneumonitis; Isolated cases: severe bullous eruptions such as Stevens-Johnson syndrome, toxic epidermal necrolysis (Lyell's syndrome) and erythema exsudativum multiforme. Muco-cutaneous, anaphylactic / -oid reactions may sometimes occur even after the first dose. *Nervous system disorders:* Uncommon: headache, dizziness/vertigo, drowsiness, insomnia; Rare: paraesthesia, tremor, anxiety, depression, psychotic reactions with self-endangering behaviour including suicidal ideation or acts, agitation, confusion, convulsions; Very rare: sensory and sensorimotor peripheral neuropathy, visual and auditory disturbances, disturbances of taste and smell, hallucinations. *Cardiac disorders:* Rare: tachycardia; Very rare: shock (anaphylactic-like); Isolated cases: QT-interval prolongation. *Vascular disorders:* Rare: hypotension. *Respiratory, thoracic and mediastinal disorders:* Rare: bronchospasm / dyspnoea. *Gastrointestinal disorders:* Common: nausea, diarrhoea; Uncommon: anorexia, vomiting, abdominal pain, dyspepsia; Rare: bloody diarrhoea which in very rare cases may be indicative of enterocolitis, including pseudomembranous colitis; Very rare: hypoglycaemia, particularly in diabetic patients. *Hepato-biliary disorders:* Common: increase in liver enzymes (e.g. ALT / AST); Uncommon: increase in bilirubin; Very rare: liver reactions such as hepatitis. *Skin and subcutaneous tissue disorders:* Uncommon: pruritus, rash; Rare: urticaria; Very rare: photosensitisation. *Musculoskeletal, connective tissue and bone disorders:* Rare: arthralgia, myalgia, tendon disorders incl. tendinitis; Very rare: tendon rupture - this undesirable effect may occur within 48 hours of starting treatment and may be bilateral. Muscular weakness, which may be of special importance in patients with myasthenia gravis; Isolated cases: rhabdomyolysis. *Renal and urinary disorders:* Uncommon: increase in serum Creatinine; Very rare: acute kidney failure (e.g. due to interstitial nephritis). *General disorders and administration site conditions:* Uncommon: asthenia; Very rare: fever. *Other undesirable effects which have been associated with fluoroquinolone administration include:* Vascular disorders: Hypersensitivity vasculitis. Nervous system disorders: Extra pyramidal symptoms and other disorders of muscular coordination. General disorders and administration site conditions: Attacks of porphyria in patients with porphyria. **Marketing Authorisation Holder:** Actavis Group PTC ehf. Reykjavikurvegur 76-78, 220 Hafnarfjörður, Iceland. **This medicinal product is subject to medical prescription.**

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