Quebec antiretroviral therapeutic drug monitoring program
McGill University Health Centre

Referring physician

Dr. M D

Report sent to

Dr. M D
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Patient data

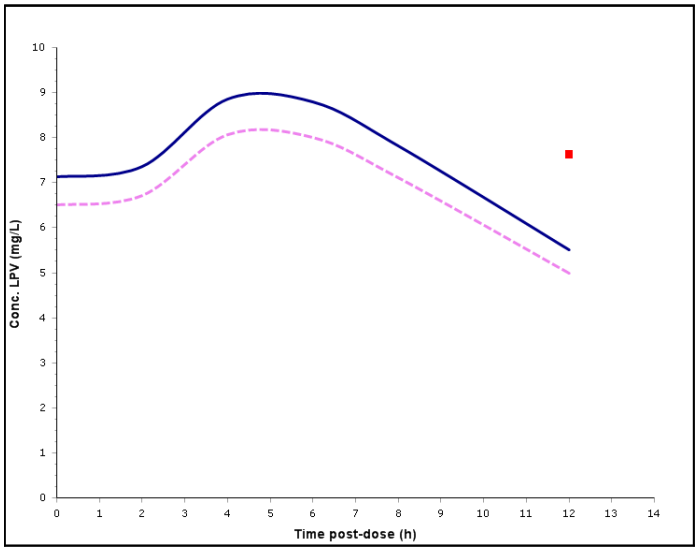
Name, First name	**Exemple, Test**
Medical record #	00001
Health insurance #	XXXX00000000
Date of birth	
Gender	Female
Weight (kg)	75,00
Body surface area	1,91

Clinical data

Past failure to PIs	Yes
Protease mutations	K20M, L33F, I47V
Note	Patient on phenytoin; viral load < 40 copies/mL; no missed doses reported in the 7 days prior to TDM analysis

Lopinavir (LPV) 400/100 mg BID

Target values	Target Cmin (mg/L)	GIQ (mg/L/mut)
Without past failure to PIs	1,00	2,10
With past failure to PIs	5,00	2,10



Results from last samples

	Date of sample	Sample #	Indication	# GIQ mutation	Dose (mg)	Time post-dose (h)	Conc (mg/L)	GIQ (mg/L/mut)	Interpretation status
■	2011-01-02	11-001-0003	Drug interaction	3	600 BID	12,00	7,64	2,55	Therapeutic

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Pharmacological advice (for last sample)

The lopinavir concentration at the end of the the dosing interval is above the mean pharmacokinetic population curve and above the minimum target curve for a patient with past virologic failure to protease inhibitors.

Furthermore, the lopinavir genotypic inhibitory quotient (GIQ) for this patient is 2.55 mg/L/mutation which is greater than the target lopinavir GIQ of 2.1 mg/L/mutation. Hence, this concentration is therapeutic and coincides with the patient's undetectable viral load.

The increased dosage of lopinavir/r at 600/150 mg BID appears to have overcome the interaction between lopinavir and phenytoin. Indeed, phenytoin use may decrease the lopinavir area under the curve by 33%. Lopinavir/ritonavir may also decrease phenytoin are under the curve by 31%. (Lim et al, J Acquir Immune Defic Syndr 2004;36:1034-1040).

If possible, replacement of phenytoin by an alternative anticonvulsant that does not induce CYP3A4 (valproic acid, clobazam, gabapentin, lamotrigin, levetiracetam, pregabalin, topiramate or vigabatrin) may be an option for the management of this drug interaction.

If phenytoin is continued, we suggest to repeat a phenytoin TDM analysis as lopinavir may decrease phenytoin concentrations. We suggest to continue the same dose of lopinavir/ritonavir for now and repeat an analysis of the lopinavir concentration if the phenytoin dose is adjusted.

Abbreviation legend

PIs = Protease inhibitors
GIQ = Genotypic inhibitory quotient
Cmin = Minimum concentration
Conc = Concentration
Cmax = Maximum concentration

Interpreted by (pharm)	Alison Wong
Validated by (pharm)	Alison Wong
Date and time of validation	2013-11-12 16:49
Signature of pharmacist having done the validation	_____