

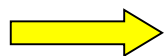
Polypharmacy and risk of ARV drug interactions among HIV-infected population

➤ N = 3674

➤ ARV – Non-ARV Interactions identified with the University of Liverpool web site www.hiv-druginteractions.org

 ➤ 261 (7%) prescribed at least 1 contraindicated ARV – drug combination

- *Proton pump inhibitors with atazanavir*
- *Simvastatin or lovastatin with boosted PI*
- *Benzodiazepines and boosted PI*

 ➤ 1239 (34%) prescribed at least one ARV-drug combination with moderate or high evidence of interaction.



Andrea, 48 aa, HIV RNA < 37, CD4 400 c/mm³

HIV noto da 1 anno, sifilide, DMID di tipo I, dislipidemia, ipotiroidismo, disturbo bipolare, pregresso IMA in TARV (2 stent), sindrome del tunnel carpale, dito a scatto, sarcoma di Kaposi cutaneo (3 lesioni stabili)

Alberto, 48 aa, HIV RNA < 37, CD4 400 c/mm³

**Raltegravir 1 cp x 2
TAF/emtricitabina 1cp**

**cardioasa 1 cp
insulina in pompa
ticagrelor 90 mg
rosuvastatina 20 mg x 2
pantoprazolo 20 mg
levotiroxina
lorazepam 2.5 mg
sertralina 50 mg
quetiapina 300 mg**

HIV noto da 1 anno, sovrappeso

Stribild 1 cp

Margherita, 55 aa, HIV RNA < 37, CD4 800 c/mm³

Ex TD, HIV noto da più di 20 anni, pregressa epatite B, cirrosi HCV correlata (SVR dopo due trattamenti), IA, DMID, LES, pregresso IMA, stenosi carotidea bilaterale, stenosi aortica, insufficienza mitralica, osteoporosi, IRC, necrosi bilaterale testa femore, BPCO, anemia multifattoriale, sindrome di Mikulicz, un ricovero per sepsi, *appena dimessa per sostituzione valvolare*

raltegravir 1 cp x 2

etravirina 1cp x 2

clopidogrel 75 mg

rabeprazolo 20 mg

nitroglicerina cerotto 5 mg

insulina lispro 8+8 UI

bisoprololo 1.25 mg x 2

furosemide 25 mg x 2

spironolattone 25 mg

eritropoietina 1 fl ogni 3 settimane

tiotropio bromuro soluzione x inalazione 5 microgrammi

budesonide e formoterolo 1 inalaz x 2

mesoglicano 50 mg x 2



Paziente 0

Paola, 55 aa, HIV RNA < 37 cp/ml, CD4 800 c/mm³

Ex TD, HIV noto da più di 20 anni, clearance spontanea HCV

Genvoya 1 cp



**GESTIONE AMBULATORIALE POLITERAPIA
MULTIDISCIPLINARE (infettivologo + farmacologo Dott. D Cattaneo)
N: 216 pazienti
(Cod. 61E103)**

Drug-drug interactions

- Unconventional cART regimens and “homologous” switches
- Antidepressants/antiepileptics
- CV drugs
- PPIs
- Antineoplastic chemotherapy
- Hormone replacement
- Anti-mycobacterials
- Vitamins, OTC, supplements
-
- DAAs (?)

Informazioni Anagrafiche

Nuovo Paziente

Precedente

Successivo

Trova Paziente

Salva Paziente

ID Contatore)

Cognome Nome

Data nascita

Sesso

Domicilio

Comune di nascita

CF

Professione

Etnia

GRAZIE

Alessandro

Prov

Scolarità

Telefono

Telefono 2

Terapia Antiretrovirale

Altre Terapie

Anamnesi Fisiologica

Farmacocinetica Antiretrovirale

Farmacocinetica Altri Farmaci

Farmacogenetica

Esami Ematochimici

Altre Patologie

Consigli

Data prima visita

Naive

☐

Data HIV primo riscontro

CD4<200

☐

Data ultimo Follow up

Epidemiologia

Coinfezione

Data inizio TARV

COGNOME _____ NOME _____
☐ M ☐ F Data di nascita ____/____/____
 Reparto: _____ Data e ora del prelievo: _____
 Medico Richiedente _____

CODICE A BARRE DEL PRELIEVO

SETTORE DI FARMACOCINETICA (PK) – Modulo di richiesta esami M FACIL C 01 Rev.13 /P FACIL 05

SANGUE: provetta da 4 ml con EDTA (tappo VIOLA cod 368861);
 per dosaggi di 1-2 farmaci usare 1 provetta, per più di due farmaci usare 2 provette.
NON congelare prelievo, conservare in frigorifero (+4°C).

Antiretrovirali

- ☐ cod.51 P-Atazanavir
- ☐ cod.52 P-Darunavir
- ☐ cod.53 P-Efavirenz
- ☐ cod.54 P-Etravirina
- ☐ cod.55 P-Lopinavir
- ☐ cod.56 P-Maraviroc
- ☐ cod.57 P-Nevirapina
- ☐ cod.58 P-Raltegravir
- ☐ cod.59 P-Tipranavir
- ☐ cod.42 P-Amprenavir
- ☐ cod.43 P-Tenofovir
- ☐ cod.26 P-Nelfinavir
- ☐ cod.27 P-Indinavir
- ☐ cod.28 P-Saquinavir
- ☐ cod.14 P-Ritonavir
- ☐ cod.8016 P-Rilpivirina
- ☐ cod.8017 P-Elvitegravir
- ☐ cod.8018 P-Dolutegravir

Altri Antinfettivi

- ☐ cod.37 P-Teicoplanina
- ☐ cod.38 P-Levofloxacin
- ☐ cod.39 P-Rifampicina
- ☐ cod.45 P-Linezolid
- ☐ cod.46 P-Ciprofloxacina
- ☐ cod.47 P-Sulfametoxazolo
- ☐ cod.48 P-Trimetoprim
- ☐ cod.9 P-Voriconazolo
- ☐ cod.8007 P-Posaconazolo
- ☐ cod.44 P-Ribavirina
- Antiepilettici
- ☐ cod.21 P-Lamotrigina
- ☐ cod.22 P-Etosuccimide
- ☐ cod.23 P-Zonisamide
- ☐ cod.24 P-Rufinamide
- ☐ cod.2 P-Levetiracetam
- ☐ cod.15 P-Topiramato
- ☐ cod.18 P-Felbamato
- ☐ cod.20 P-Oxcarbazepina

Antipsicotici/antidepressivi

- ☐ cod.25 P-Citalopram/Escitalopram
- ☐ cod.29 P-Quetiapina
- ☐ cod.30 P-Paroxetina
- ☐ cod.31 P-Aripiprazolo
- ☐ cod.32 P-Olanzapina
- ☐ cod.33 P-Risperidone
- ☐ cod.34 P-Haloperidolo
- ☐ cod.35 P-Clozapina
- ☐ cod.36 P-Paliperidone
- ☐ cod.41 P-Fluoxetina
- ☐ cod.93 P-Duloxetina
- ☐ cod.94 P-Flufenazina
- ☐ cod.95 P-Clomipramina
- ☐ cod.96 P-Venlafaxina
- ☐ cod.98 P-Ziprasidone
- ☐ cod.99 P-Sertralina
- Varie
- ☐ cod.49 P-Ibuprofene
- ☐ cod.12 P-Thiotepa

SANGUE:

una provetta da 4 ml tappo ROSA cod 368813

- ☐ cod.550 S-Chinidina
- ☐ cod.500 S-Valproato
- ☐ cod.546 S-Carbamazepina
- ☐ cod.431 S-Fenobarbitale
- ☐ cod.597 S-Fenitoina
- ☐ cod.460 S-Primidone
- ☐ cod.521 S-Gentamicina
- ☐ cod.522 S-Vancomicina
- ☐ cod.433 S-Litio
- ☐ cod.472 S-Teofillina
- ☐ cod.8005 S-Amikacina
- ☐ cod.8006 S-Paracetamolo

SANGUE:

una provetta da 4 ml tappo VIOLA cod 368861

- ☐ cod.461 Sg-Ciclosporina

Profilo farmacocinetico (AUC)

Per misure del farmaco/i ripetute nell'arco della giornata indicare tempi dei prelievi:

- ☐ C0 ora prelievo
- ☐ ora assunzione farmaco
- ☐ C1 ora prelievo
- ☐ C2 ora prelievo
- ☐ C3 ora prelievo
- ☐ C4 ora prelievo
- ☐ C5 ora prelievo
- ☐ C6 ora prelievo
- ☐ C7 ora prelievo
- ☐ C8 ora prelievo
- ☐ C9 ora prelievo
- ☐ C10 ora prelievo
- ☐ C11 ora prelievo
- ☐ C12 ora prelievo

Colour Legend



No clinically significant interaction expected.

These drugs should not be coadministered.

Potential interaction which may require a dosage adjustment or close monitoring.

Potential interaction predicted to be of weak intensity (<2 fold ↑AUC or <50% ↓AUC). No *a priori* dosage adjustment is recommended.

2017

New preparations added to Hormone Therapy for Gender Transitioning.

Our guide to interactions with Hormone Therapy for gender transitioning has been updated to include triptorelin, testosterone enanthate or cypionate, and mixed testosterone esters. A new comment about the thromboembolic risk with conjugated estrogens has been added, as well as new review article in the reference section.

The update guided is found in the Interaction Cha...

Added: Tuesday 04 April 2017

2016

New comedications and new interaction charts

The following drugs have been added to the comedication list, taking the number of comedications to over 650 drugs.

- *Hypertension/Heart Failure Agents* – Terazosin, Sacubitril
- *Herbals* - African Potato, Cat's claw, Goldenseal root
- *Other* - Cyproterone acetate, Goserelin, Leup...

Added: Friday 25 November 2016



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Portale di informazione sanitaria specializzato in farmaci, parafarmaci, alimentazione e dietetica. Offre inoltre numerosi calcolatori medici, forum, newsletter.

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Cerca Un Farmaco

Vuoi conoscere tutte le informazioni disponibili su ...

Indice Schede Farmaci

Indice delle Schede Tecniche Ministeriali dei farmaci in ...

Triatec

Triatec - Ramipril - Consulta la Monografia del medicinale ed il ...

Prontuario Farmaceutico

Il Prontuario Farmaceutico completo con nome ...

Interazioni Farmacologiche

INTERAZIONI FARMACOLOGICHE ...

Cerca Farmaci per Categoria

Ricerca farmaci per categoria terapeutica (ATC) con ...

Angelo, 55 aa, HIV RNA < 37 NR, CD4 603 c/mm³

HIV noto da 30 anni, epilessia farmacoresistente da angioma cavernoso

TDF FTC RPV da un anno

Clobazam 10 mg (no Liverpool)

Ramipril 5 mg No Interaction Expected

Oxcarbazepina 600 x 3 (in range)

TDF (45 ng/mL)

RPV (<20 ng/mL)

	Abacavir	Atazanavir	Cobicistat (with ATV or DRV)	Darunavir	Dolutegravir	Efavirenz	Emtricitabine/TAF	
Oxcarbazepine								
	Etravirine	Lopinavir	Maraviroc	Nevirapine	Raltegravir	Rilpivirine	Ritonavir	Tenofovir-DF
								

Drug-Drug Interactions with INSTI and Key Drugs

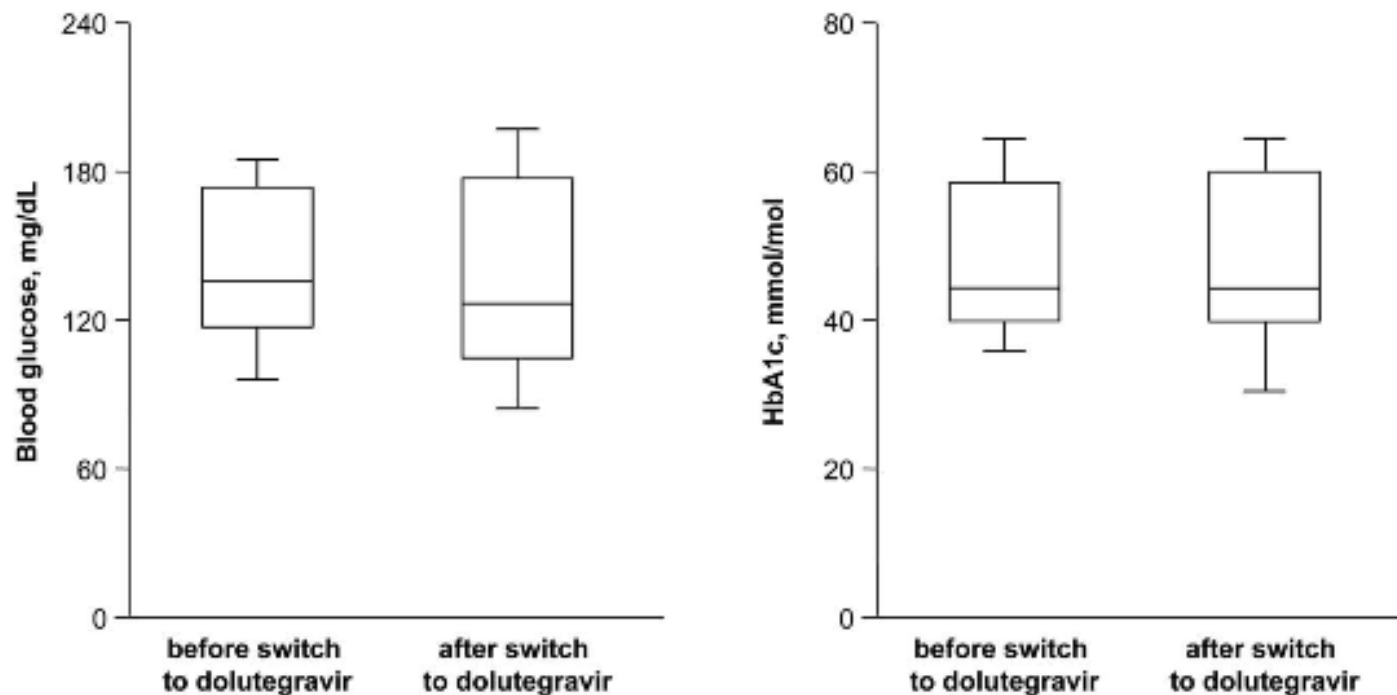
RAL ^[1,2]	EVG/COBI ⁽¹⁾	DTG ^[3]
▪ Rifampin ▪ Antacids containing polyvalent cations (Ca++, Mg++)	▪ Antacids ▪ Benzodiazepines ▪ Beta blockers ▪ Calcium channel blockers ▪ Erectile dysfunction drugs ▪ Inhaled/injectable corticosteroids ▪ MVC ▪ OCPs (norgestimate) ▪ Rifampin ▪ Statins	▪ EFV ▪ ETR ▪ FPV/RTV ▪ Medications containing polyvalent cations (Ca++, Mg++), including laxatives, antacids ▪ Metformin ▪ Rifampin ▪ TPV/RTV



*May be a class effect

How Relevant is the Interaction Between Dolutegravir and Metformin in Real Life?

[Gervasoni C¹](#), [Minisci D](#), [Clementi E](#), [Rizzardini G](#), [Cattaneo D](#).



Orlistat: weight lost at cost of HIV rebound.

Gervasoni C¹, Cattaneo D², Di Cristo V³, Castoldi S², Gervasi E³, Clementi E⁴, Riva A³.

Reduced raltegravir clearance in HIV-infected liver transplant recipients: an unexpected interaction with immunosuppressive therapy?

Cattaneo D¹, Puoti M², Sollima S³, Moioli C², Foppa CU⁴, Baldelli S¹, Clementi E⁵, Gervasoni C⁶.

⊕ Author information

Abstract

OBJECTIVES: Liver transplantation (LTx) is considered a safe procedure in selected HIV-infected patients. In this clinical setting raltegravir is the antiretroviral of choice due to its optimal tolerability and its negligible interactions with immunosuppressive drugs. We aimed at providing data on the pharmacokinetics of raltegravir in LTx recipients, on which the available information is inconclusive.

METHODS: In this retrospective multicentre study we characterized the pharmacokinetics of raltegravir in a consecutive series of HIV-infected LTx recipients referred to our laboratory for therapeutic drug monitoring (TDM) and compared the obtained profiles with those collected from a control group of HIV-infected patients.

RESULTS: Seventeen HIV-infected LTx patients were considered. LTx recipients had significantly higher raltegravir AUC₀₋₁₂ compared with the control group of HIV-infected patients [14314 (11627-19998) versus 8795 (5218-12954) ng·h/mL; $P < 0.01$]. Two LTx patients experienced moderate increments in serum transaminases, nausea and vomiting that improved after raltegravir dose reduction.

CONCLUSIONS: High raltegravir exposure and acceptable safety profile were observed in HIV-infected LTx recipients. Our results highlight that some patients may obtain an advantage from TDM-guided raltegravir dose adjustments with potential benefits in terms of drug tolerability.

What can we learn from GAP

- Most DDIs are manageable or avoidable
 - if recognised.....
- DDIs may be:
 - anticipated
 - unanticipated, but explainable
 - unanticipated, and inexplicable
- Most potential interactions remain unstudied or studied in healthy subjects
- PK effect vs clinically significant effect
 - therapeutic window

Paola Meraviglia *Mal Inf I Div*

Diletta Pezzani *Mal Inf III Div*

Chiara Resnati *Mal Inf III Div*

Alessandro Fossati *in prestito dalla Chir Vasc*

Davide Minisci *Mal Inf I Div (1 p)*



GAP



GAP

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