
TUNISIE
HAMMAMET
du 19 au 21 nov. 2021
4e édition
AFRAMED 2021
VIH, Hépatites, Santé sexuelle
Infections émergentes
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Infections émergentes

Comorbidités et VIH : cas clinique

Dr Kayembe Kick (RD Congo)
Pr Karine Lacombe (France)

Patiente NK
-Age : 45 ans
-Mariée, 3 enfants en bonne santé
-Tabac : 20PA
-Alcool : 0

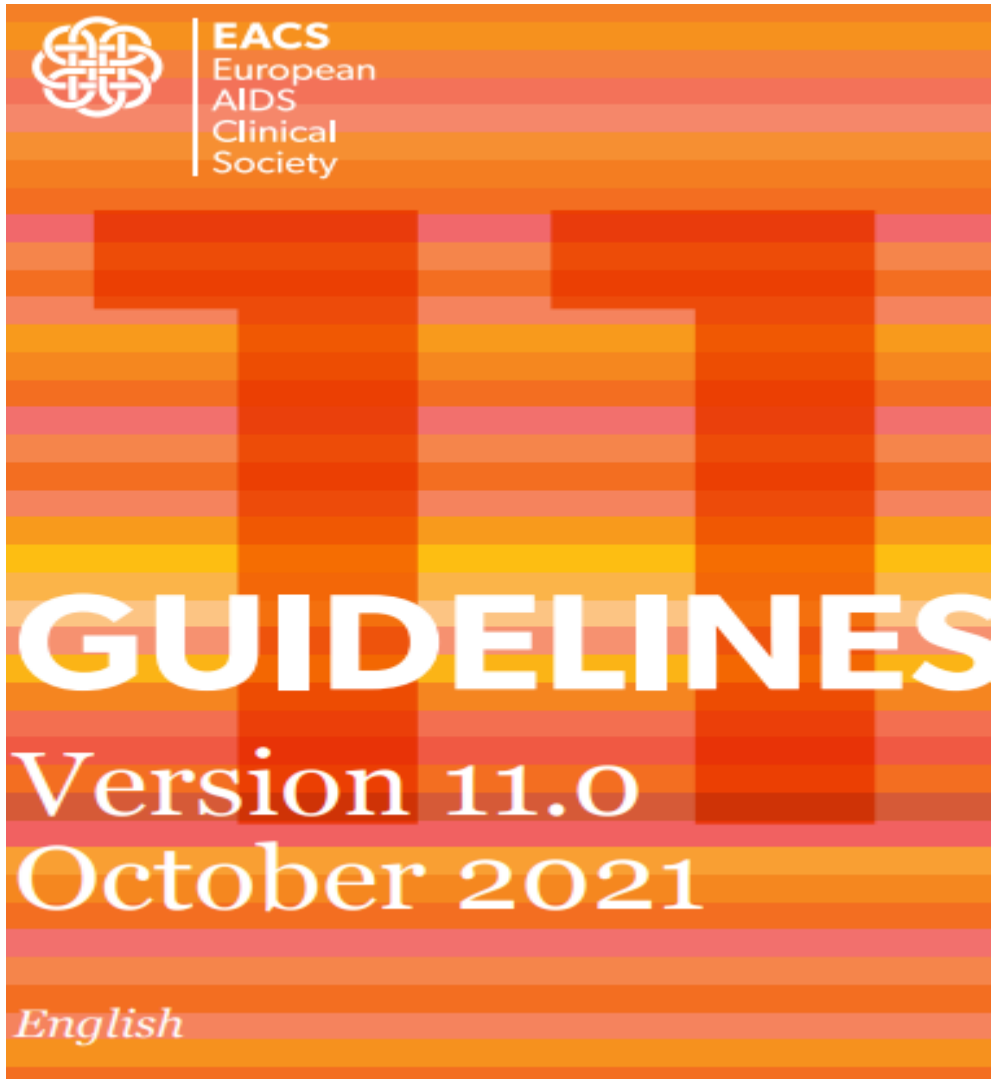
ATCDs : - Infection VIH depuis 2010
- Sous Truvada–Kaletra
- Découverte à l'occasion d'une toxoplasmose cérébrale
- Nadir CD4 : 40 /mm3, zénith CV VIH : 5200 copies/mL
-Dernier bilan immuno-virologique : CD4 607/mm3 , CV VIH < 20 copies/mL

Consultation du 6/7/2015 :

- Se plaint d'un syndrome polyuropolydepsique
- Biologie :

Paramètres biologiques	Résultats
Glycémie	9,1 mmol/L
HbA1c	9%
Créatini	/L
Choleste	l/L
Triglycér	l/L
HDLc	ol/L
LDLc	1,5mmol/L

Diabète type II



Type 2 Diabetes: Diagnosis

Diagnostic criteria(i)

	Fasting plasma glucose mmol/L (mg/dL)(ii)	Oral glucose tolerance test (OGTT) 2-h value mmol/L (mg/dL)(iii)	HbA1c(iv) (mmol/mol)
Diabetes	≥ 7.0 (126) OR→	≥ 11.1 (200)	≥ 6.5% (≥ 48)
Impaired glucose tolerance (IGT)	< 7.0 (126) AND→	7.8 – 11.0 (140-199)	Prediabetes 5.7-6.4% (39-47)
Impaired fasting glucose (IFG)	5.7– 6.9 AND (100-125)	< 7.8 (140)	

Chez cette patiente, les facteurs favorisant le diabète sont :

A- Son traitement antirétroviral
B- L'infection VIH
C- La prédisposition génétique
D- Le nadir CD4
E- Le zénith de charge virale

Insulino-résistance et VIH

HIV, Antiretroviral Therapy and Metabolic Alterations: A Review

2020 Ergin et al. Cureus 12(5): e8059. DOI 10.7759/cureus.8059

Huseyin Ekin Ergin [1] , Evelyn E. Inga [2, 3] , Tun Zan Maung [2] , Mehwish Javed [2] , Safeera Khan [2]

1. Medicine, California Institute of Behavioral Neurosciences and Psychology, Fairfield, USA 2. Internal Medicine, California Institute of Behavioral Neurosciences and Psychology, Fairfield, USA 3. Internal Medicine, LaSante Health Center, Brooklyn, USA

Author	Drug studied	Number of patients	Type of study	Result	Conclusion
Araujo et al. (2014) [23]	Predominance of PI in pretreated patients (14 vs 56%), while most first-line patients received non-nucleoside analogs (86 vs 41%). Specifically, DRV or ATV was primarily used in pretreated patients	265	Cross-sectional study	Insulin resistance was found to be less prevalent in patients on first-line treatment compared to pretreated patients.	Newer antiretrovirals were demonstrated to be safer than older drugs considering metabolic disorders.
Muhammad et al. (2017) [14]	ART	300	Cross-sectional study	MS was more prevalent in patients on HAART than HAART-naive patients. Duration of HAART exposure wasn't significantly associated with insulin resistance.	HAART, especially regimens with PIs was associated with the increased risk of MS.

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Bune et al. (2019) [31]	NRTI + NNRTI + PI	633	Cross-sectional study	31.3% of the ART-exposed patients had DM. DM was prevalent in %28 of the ART-naive patients. DM was the third most frequent component of the MS.	MS was more frequent in ART-exposed patients than ART-naive patients in this study.

HIV-associated lipodystrophy: from fat injury to premature aging

Martine Caron-Debarle[1,2], Claire Lagathu[1,2], Franck Boccara[1,2,3], Corinne Vigouroux[1,2,3] and Jacqueline Capeau[1,2,3]

Class	Molecule	Abbreviation	Lipoatrophy	Lipohypertrophy	Dyslipidemia	Insulin resistance
NRTI	Stavudine	D4T	+++	++	++	++
	Zidovudine	AZT, ZDV	++	+	+	++
	Didanosine	ddI	+/−	+/−	+	+
	Lamivudine	3TC	0	0	+	0
	Abacavir	ABC	0	0	+	0
	Tenofovir	TDF	0	0	0	0
	Emtricitabine	FTC	0	0	0	0
NNRTI	Efavirenz	EFV	+/−	+/−	++ increased HDL	+
	Nevirapine	NVP	0	0	+ increased HDL	0
PI	Ritonavir	RTV	+/−	+	+++	++
	Indinavir	IDV	+/−	+	+	+++
	Nelfinavir	NFV	+/−	+	++	+
	Lopinavir	LPV	+/−	+	++	++
	Amprenavir Fosamprenavir	APV FPV	+/−	+	+	+/−
	Saquinavir	SQV	+/−	+	+/−	+/−
	Atazanavir	ATV	0	++	+/−	0
	Darunavir	DRV	0	+	+/−	+/−
Fusion inhibitor	Enfuvirtide	T20	?	?	0	0
CCR5 inhibitor	Maraviroc	MVC	?	?	0	0
Integrase inhibitor	Raltegravir	RAL	?	?	0	0

Caron-Debarle, Trends in Molecular Medicine. 2010

EACS European AIDS Clinical Society

GUIDELINES

Version 11.0
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English

Type 2 Diabetes: Management

First-line therapy is metformin[i] and comprehensive lifestyle modification

Indicators of high-risk or established ASCVD[ii], CKD or HF

NO

Consider independently of baseline HbA1c or HbA1c target[iii]

HbA1c above individualised target

ASCVD[ii] predominates	HF or CKD[iv], predominates	DPP-4i	GLP-1RA[vii]	SGLT2i[viii]	TZD
Preferably GLP-1 RA with proven CVD benefit[v], **OR** SGLT2i with proven CVD benefit if eGFR adequate	**Preferably** SGLT2i with evidence of reducing HF and/or CKD progression if eGFR adequate[vi], **OR** If SGLT2i not tolerated or contraindicated of if eGFR less than adequate add / switch to GLP-1 RA with proven CVD benefit	HbA1c above target			
		SGLT2i **OR** TZD	SGLT2i **OR** TZD	GLP-1RA **OR** DPP-4i **OR** TZD	SGLT2i **OR** DPP-4i **OR** GLP-1RA
HbA1c above target	HbA1c above target	HbA1c above target			
If further intensification is required: • For those on a GLP-1RA consider adding SGLT2i with proven CVD benefit[vi] • DPP-4i if not on GLP-1RA • Basal insulin • TZD • SU	Avoid TZD in the setting of HF • For those on a SGLT2i consider adding GLP-1RA with proven CVD benefit[vi] • DPP-4i (not saxigliptin) in the setting of HF (if not on GLP-1RA) • Basal insulin • SU	Continue with addition of other agents as outlined above / see EASD/ADA Guidelines for more details / refer to a specialist			

Lors de son contrôle habituel le 7/4/2019 :

Examen : Poids : 89 Kg Taille 1m65. ➔ BMI : 32,72 kg/m²

Tour de taille 110 cm

TA : 13/7 cmHg

Biologie :

Paramètres biologiques	Résultats
Glycémie	5,5 mmol/L
HbA1c	6%
ASAT/ ALAT	35UI/ 24UI/L
GGT	30 UI/L
PAL	70UI/L
Créatinine	85 µmol/L
Cholesterol	6,4 mmol/L
Triglycérides	2,6 mmol/L
HDLc	0,5 mmol/L
LDLc	4,3 mmol/L

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Créatinine	85 mol/L
Cholesterol	**6,4 mmol/L**
Triglycérides	**2,6 mmol/L**
HDLc	**0,5 mmol/L**
LDLc	**4,3 mmol/L**

Cette dyslipidémie est favorisée par :

A- Le vieillissement physiologique
B- L’ âge
C- Son traitement antirétroviral
D- La durée d’évolution du VIH
E- Le nadir CD4

Changes in lipidomic profile by anti-retroviral treatment regimen

An ACTG 5257 ancillary study

Chaudhary et al. Medicine (2021) 100:30

Ninad S. Chaudhary, MBBS[a], Tobias Kind, PhD[b], Amanda L. Willig, PhD[c], Michael S. Saag, MD[c], Sadeep Shrestha, PhD[a], Nicholas Funderburg, PhD[d], Howard W. Wiener, PhD[a], E. Turner Overton, MD[c], Marguerite R. Irvin, PhD[a,*]

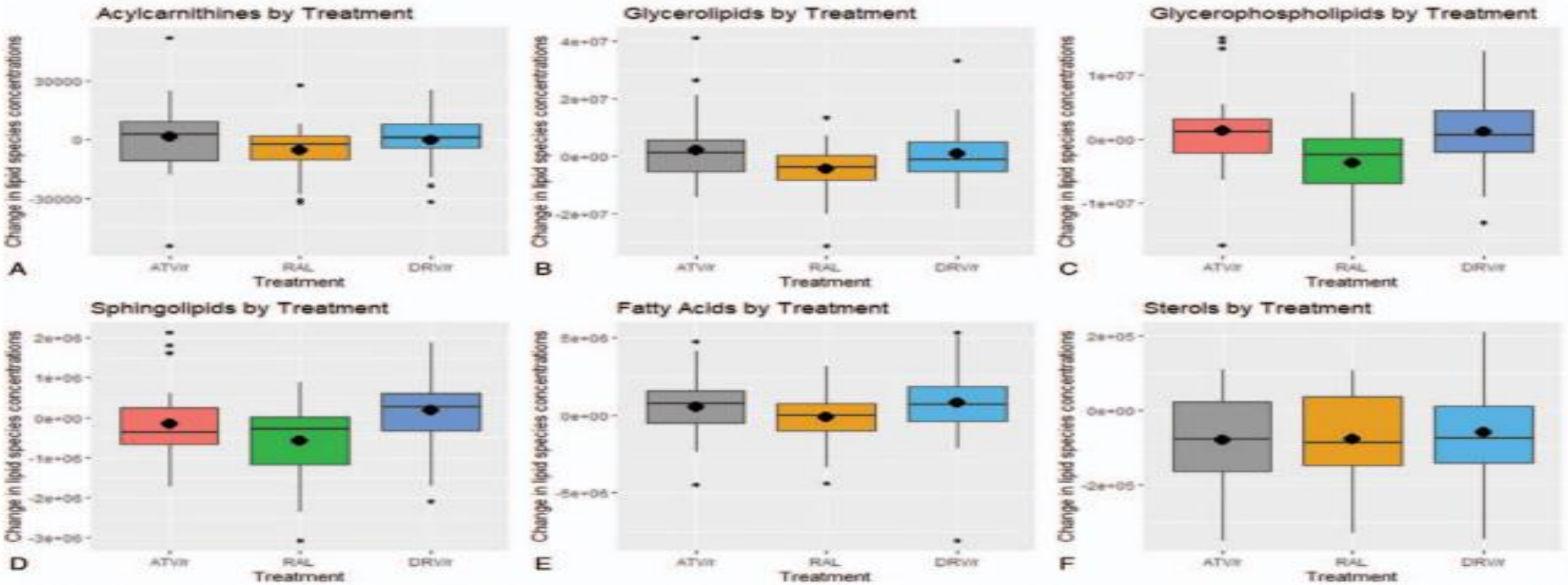


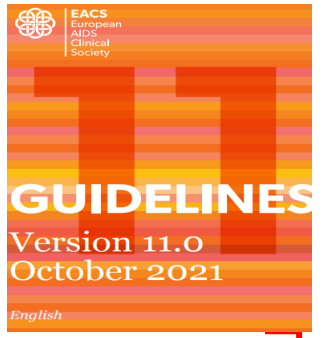
Figure 1. Distribution of lipid class concentrations by treatment group. Footnote: Y axis indicates change in the concentration of lipidomic classes before and after treatment; X axis denotes treatment group; * denotes outliers; Glycerophospholipids class (Plot C) and Sphingolipids class (Plot D) represents change in lipid class concentrations that are statistically different by treatment group; ATV/r = ritonavir-boosted atazanavir, DRV/r = ritonavir-boosted darunavir, RAL = raltegravir; Group (number of lipid species within class): AcylCarnithines (7), Glycerolipids (82), Glycerophospholipids (208), Sphingolipids (92), fatty acids (19), sterols (9). The statistical *P* value from a one-way anova test each lipid class are: Acylcarnithines (*P* = .28), Glycerolipids (*P* = .06), Glycerophospholipids (*P* = .007), Sphingolipids (*P* = .028), Fatty acids (*P* = .35), Sterols (*P* = .82).

Associés aux règles hygiéno-diététiques , vous indiquez

A- Le remplacement du traitement antirétroviral
B- L'arrêt du traitement antirétroviral (patiente indétectable depuis 8 ans)
C- La prescription d'une statine
D- Un contrôle biologique dans 3 mois
E- Un bilan thyroïdien

Prevention of Cardiovascular Disease (CVD)

Principles:
The intensity of efforts to prevent CVD depends on the underlying risk of CVD, which can be estimated[i]. The preventive efforts are diverse in nature and require involvement of a relevant specialist, in particular if the risk of CVD is high and always in persons with a history of CVD.



Assess CVD risk in next 10 years[i]

Advise on diet and lifestyle in all persons

Consider ART modification if 10-year CVD risk ≥ 10%[ii]

Smoking (see page 61)

Identify key modifiable risk factors[iii]

Blood pressure

Drug treatment if: SBP ≥ 140 or DBP ≥ 90 mmHg (especially if 10-year CVD risk ≥ 10%)

Target[iv]

SBP < 130 mmHg

DBP < 80 mmHg

Treatment (see pages 63-65)

Coagulation

Drug treatment if: established CVD or DM with very high/high CVD risk[v]

Target - N/A

Consider treating with acetylsalicylic acid 75–150 mg[vi]

Glucose

Confirm DM and treat with diet and drugs

Target
HbA1C 6.5-7.0%

Treatment (see page 68)

Lipids

Drug treatment if: established CVD or DM or 10-year CVD risk ≥ 10%

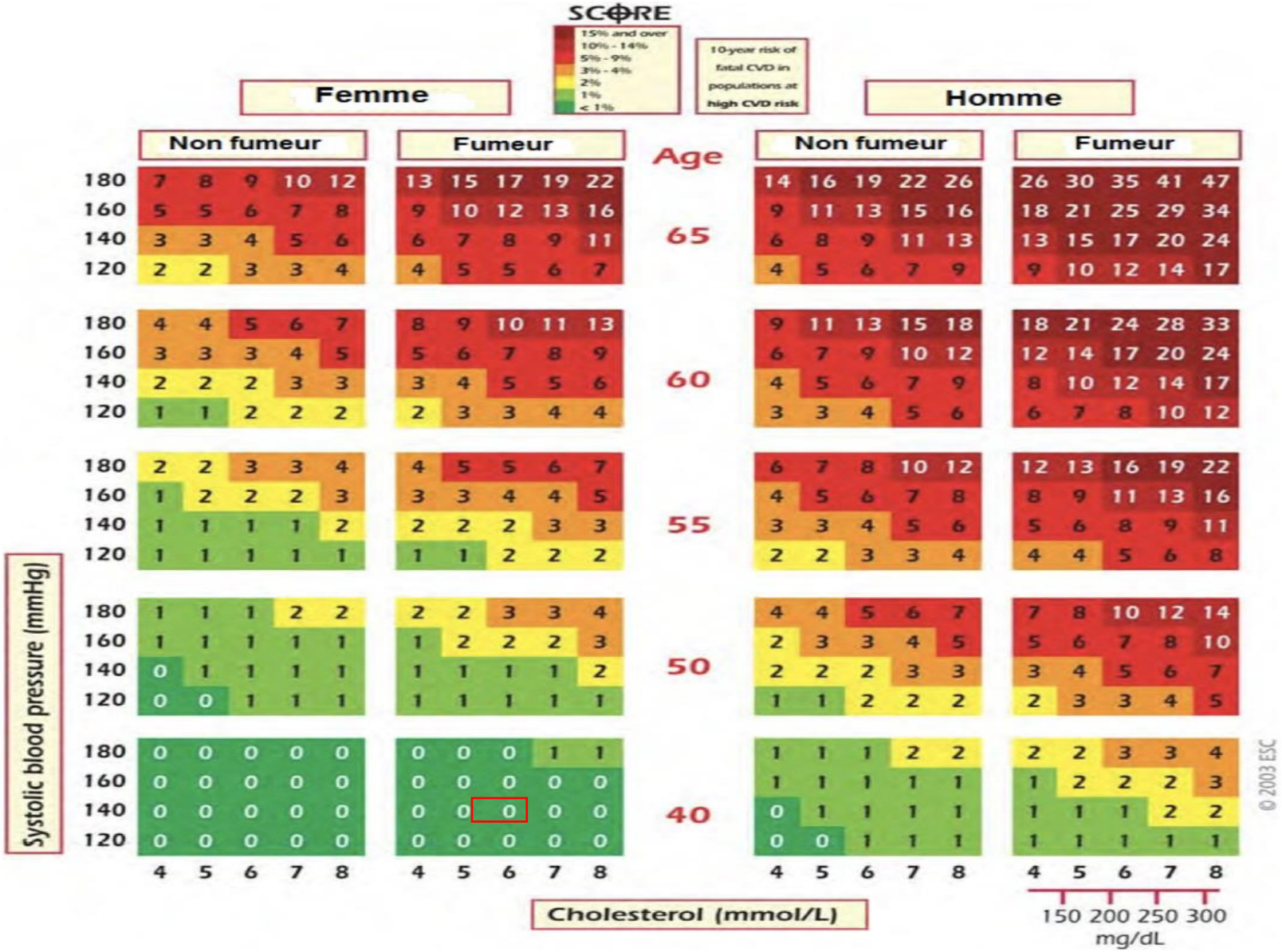
Target[vii] *

	2ry prevention or very high risk[viii]	High risk [ix]
LDL-c**	< 1.4 (55)	< 1.8 (70)
non-HDL-c	< 2.2 (85)	< 2.6 (100)

Treatment (see page 69)

* Fasting or non-fasting samples may be used

** and ≥ 50% reduction from baseline



Risque cardio- vasculaire : Evaluation du risque d'évènement cardiovasculaire fatal à 10 ans

Mais ne tient pas compte de:
- Facteurs liés au VIH.
- Insulinorésistance (syndrome métabolique).

Drugs used to lower LDL-c

Drug class	Drug	Dose	Adverse effects	Advice on use of lipid lowering therapy together with ART	
				use with PI/r	use with NNRTIs
Statin[i,viii]	Atorvastatin[ii]	10-80 mg qd	Gastrointestinal symptoms, headache, insomnia,	Start with low dose[v] (max daily dose: 10 mg (ATV/r); 20 mg (LPV/r); 40 mg (DRV/r)	Consider higher dose[vi]
	Fluvastatin[iii]			higher dose[vi]	Consider higher dose[vi]
	Pravastat				Consider higher dose[vi]
	Ro				Start with low dose[v]
	Simva				
	Pitavastatin			xpected	
Intestinal cholesterol absorption inhibitor[i,ix]	Ezetimibe[iv]			teraction expected	
PCSK9-inhibitors[x]	Evolocumab	140 mg 2 weekly or 420 mg monthly	Nil	No interaction expected	
	Alirocumab	75 mg or 150 mg 2 weekly			

Interaction médicamenteuse
+++++

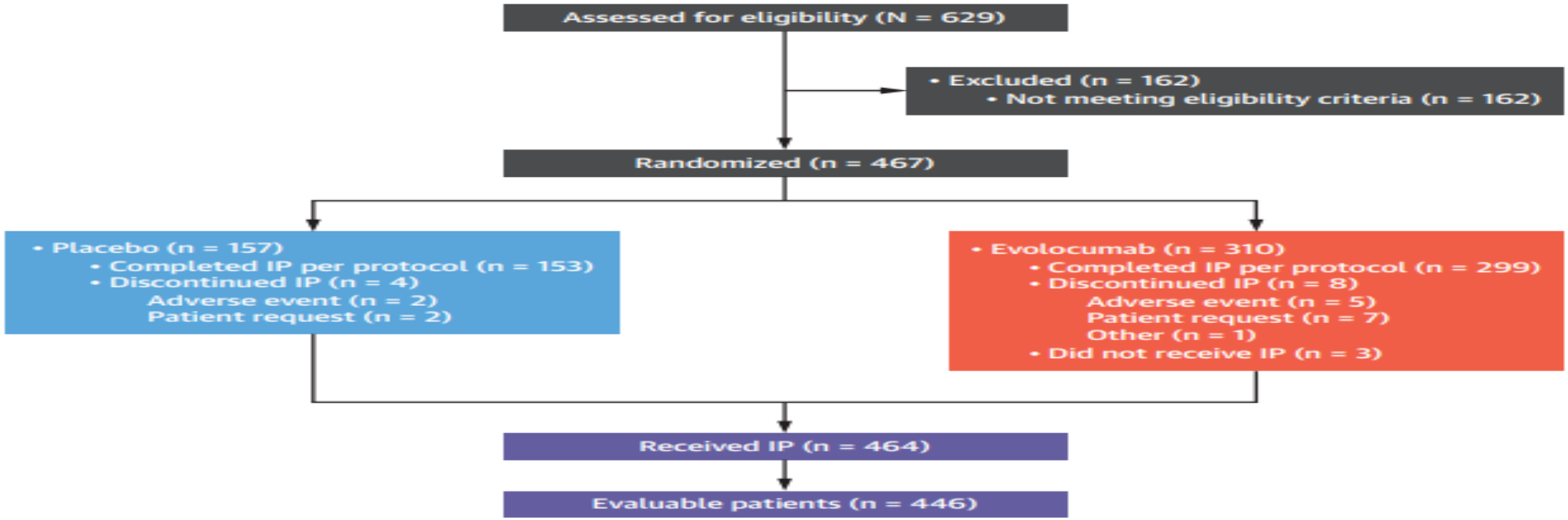
Dyslipidémies : Nouvelles recommandations

Evolocumab in HIV-Infected Patients With Dyslipidemia

Primary Results of the Randomized, Double-Blind BEIJERINCK Study

Franck Boccara, MD, PhD,[a] Princy N. Kumar, MD,[b] Bruno Caramelli, MD, PhD,[c] Alexandra Calmy, MD, FMH, PhD,[d] J. Antonio G. López, MD,[e] Sarah Bray, PhD,[e] Marcoli Cyrille, MD,[e] Robert S. Rosenson, MD,[f] for the BEIJERINCK Investigators

FIGURE 1 BEIJERINCK Study Profile



Consort flow chart of patient disposition in the BEIJERINCK study. Patients were screened for eligibility (n — 629) and randomized (n — 467) into the placebo (n — 157; **blue box**) or evolocumab (n — 310; **red box**) groups of the study. A total of 446 patients who received IP were evaluable for the primary endpoint. IP — investigational product.

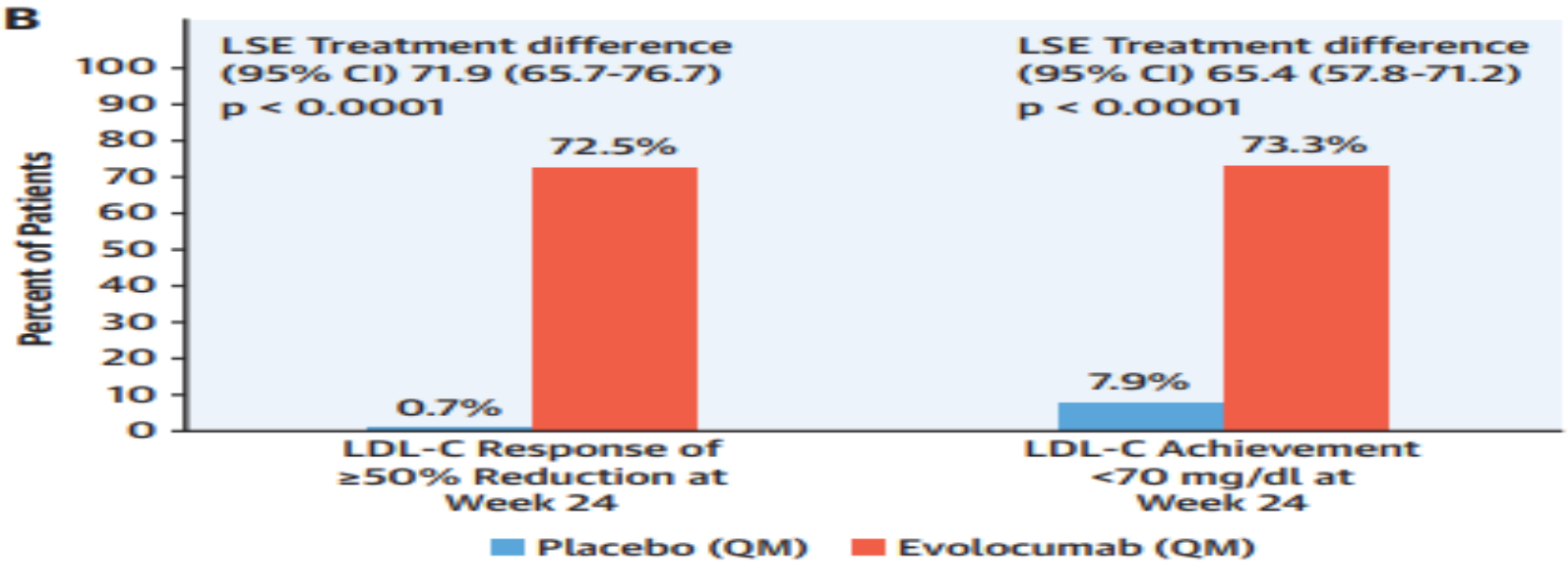
Prise en charge des dyslipidémies : Nouvelles recommandations

Evolocumab in HIV-Infected Patients With Dyslipidemia

Primary Results of the Randomized, Double-Blind BEIJERINCK Study

Franck Boccara, MD, PhD,[a] Princy N. Kumar, MD,[b] Bruno Caramelli, MD, PhD,[c] Alexandra Calmy, MD, FMH, PhD,[d] J. Antonio G. López, MD,[e] Sarah Bray, PhD,[e] Marcoli Cyrille, MD,[e] Robert S. Rosenson, MD,[f] for the BEIJERINCK Investigators

FIGURE 2 Continued

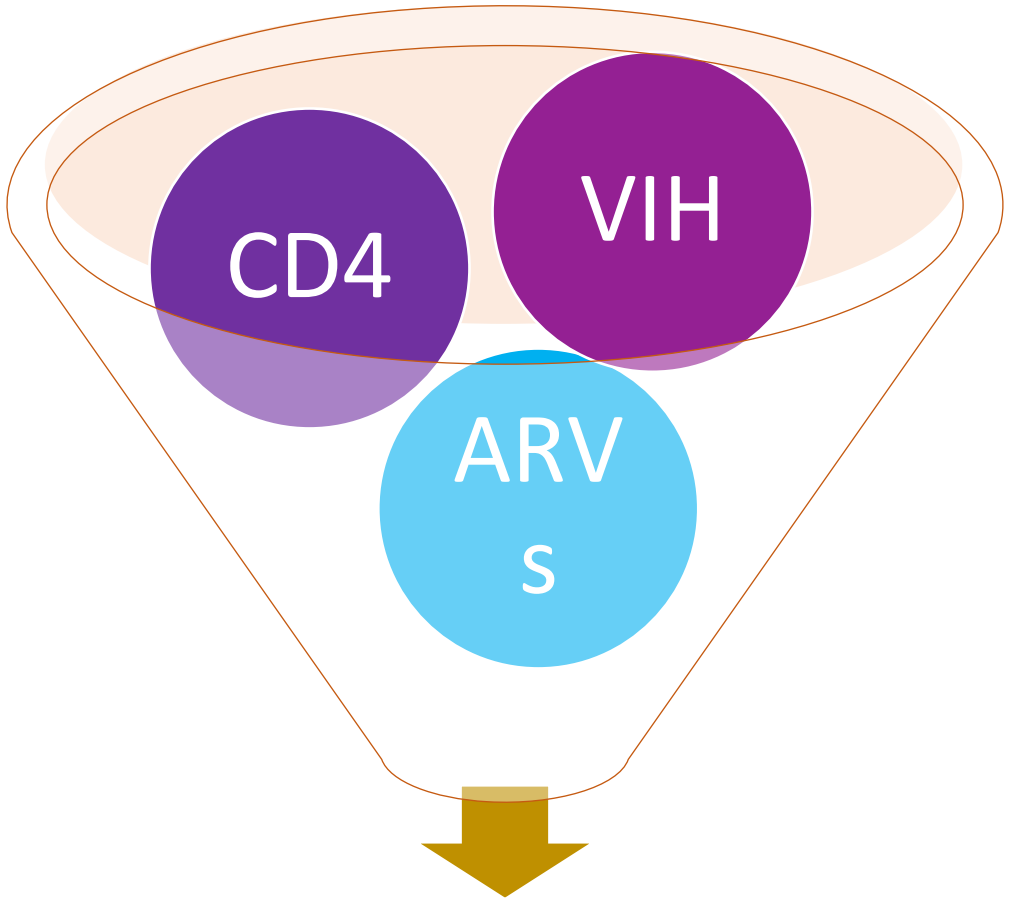


The effect of evolocumab, compared with placebo, on LDL-C, triglycerides, and atherogenic lipoproteins was tested. **(A)** Evolocumab significantly reduced LDL-C, non–HDL-C, ApoB, total cholesterol, VLDL-C, triglycerides, and Lp(a), and increased HDL-C. **(B)** Evolocumab treatment resulted in significantly more patients achieving the secondary efficacy endpoints of LDL-C reduction of ≥50% and LDL-C <70 mg/dl compared with placebo. apoB = apolipoprotein B; CI = confidence interval; HDL-C = high-density lipoprotein cholesterol; LDL-C = low-density lipoprotein cholesterol; Lp(a) = lipoprotein(a); LSE = least squares estimate; QM = monthly; VLDL-C = very low–density lipoprotein cholesterol.

Vous décidez de changer le traitement antirétroviral, quelle combinaison choisissez vous?

A- Abacavir/ lamivudine/Dolutégravir (Triumeq)
B- Zidovudine/ lamivudine/ atazanavir/ritonavir (combivir+ reyataz/norvir)
C-Abacavir/lamivudine/ atazanavir/ritonavir (Kivexa+ reyataz/norvir)
D- Tenofovir/ emtricitabine/ rilpivirine (truvada+ edurant)
E- Dolutégravir/ darunavir/ritonavir (tivicay+prezista+norvir)

Conclusion



Comorbidités


Merci de votre attention