

III Jornada de Actualización de VIH
Aspectos relevantes para Atención Primaria

Barcelona, 13 de Noviembre de 2015

Infección por VIH:
Aspectos relevantes para
Atención Primaria

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Agenda

- Transmisión del VIH
- ¿Cuándo solicitar la prueba VIH?
- Epidemiología del VIH en nuestro medio
- Situación clínica actual de los pacientes VIH
- Interacciones de los fármacos antirretrovirales

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Vías de transmisión del VIH




Unprotected sex with an infected partner



Sharing needles with infected person

Uso personal de material estéril



Transmission from infected mother to fetus

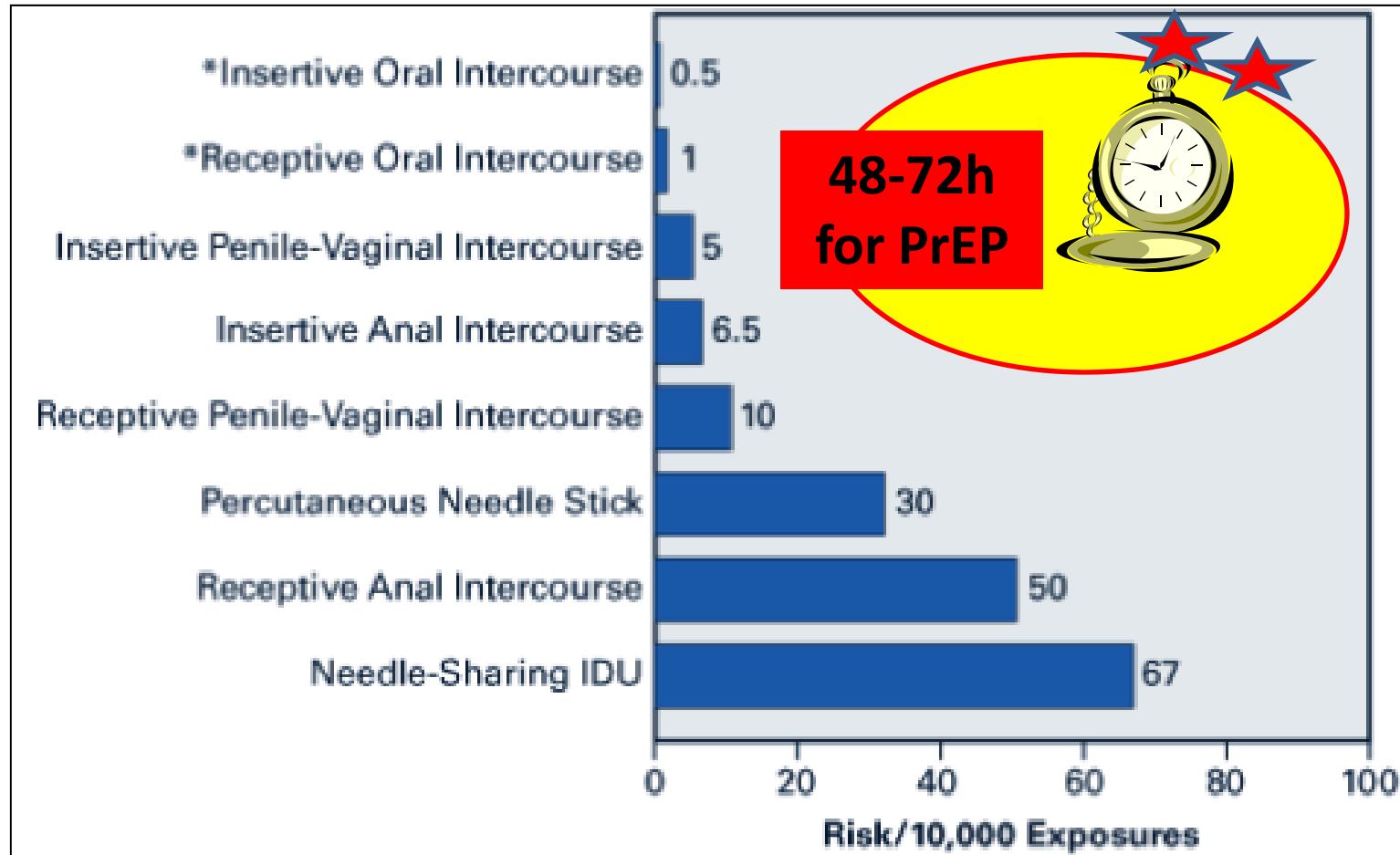
Cribado universal embarazadas



Infection from blood products

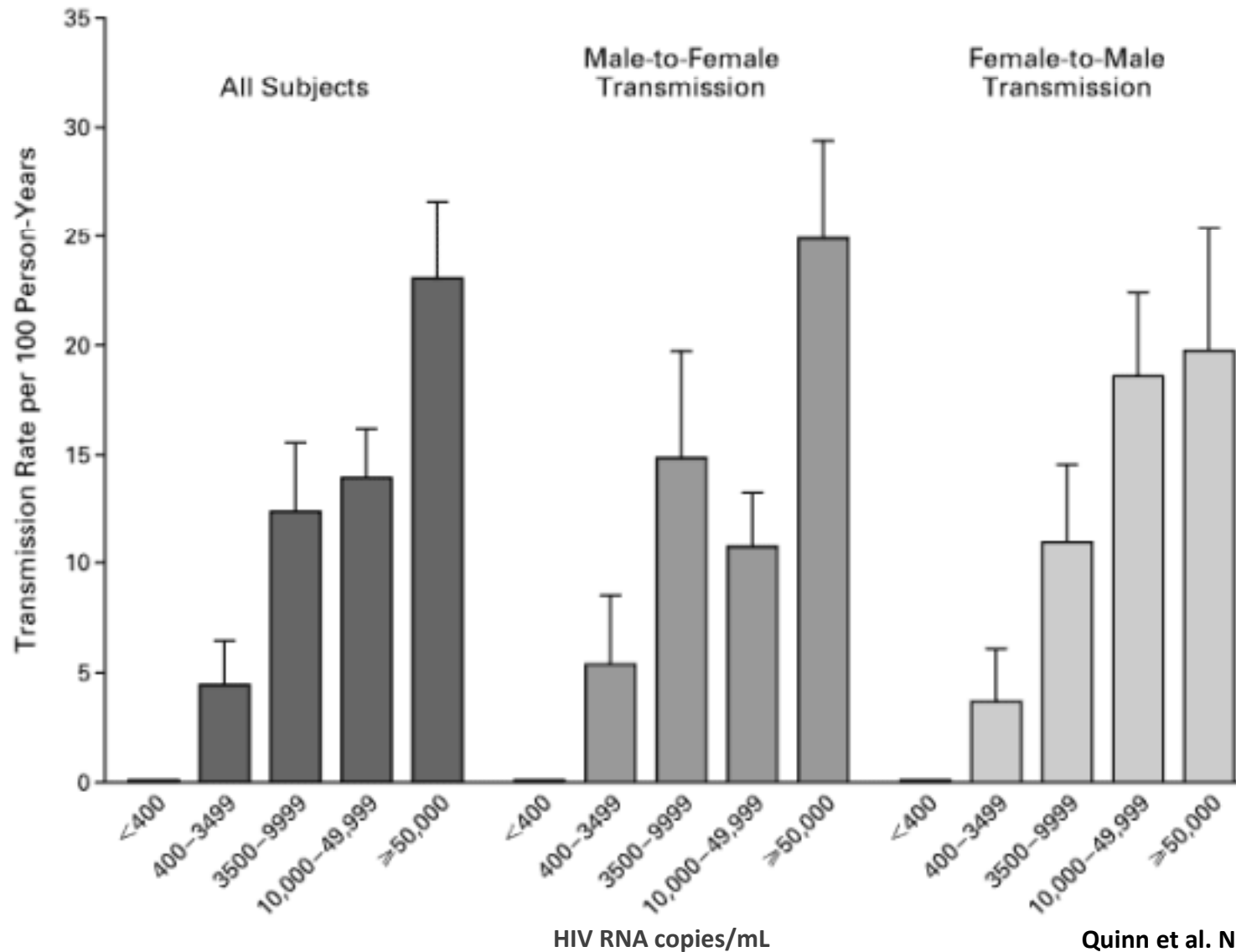
Cribado universal hemoderivados

Riesgo de transmisión VIH con una única exposición no protegida

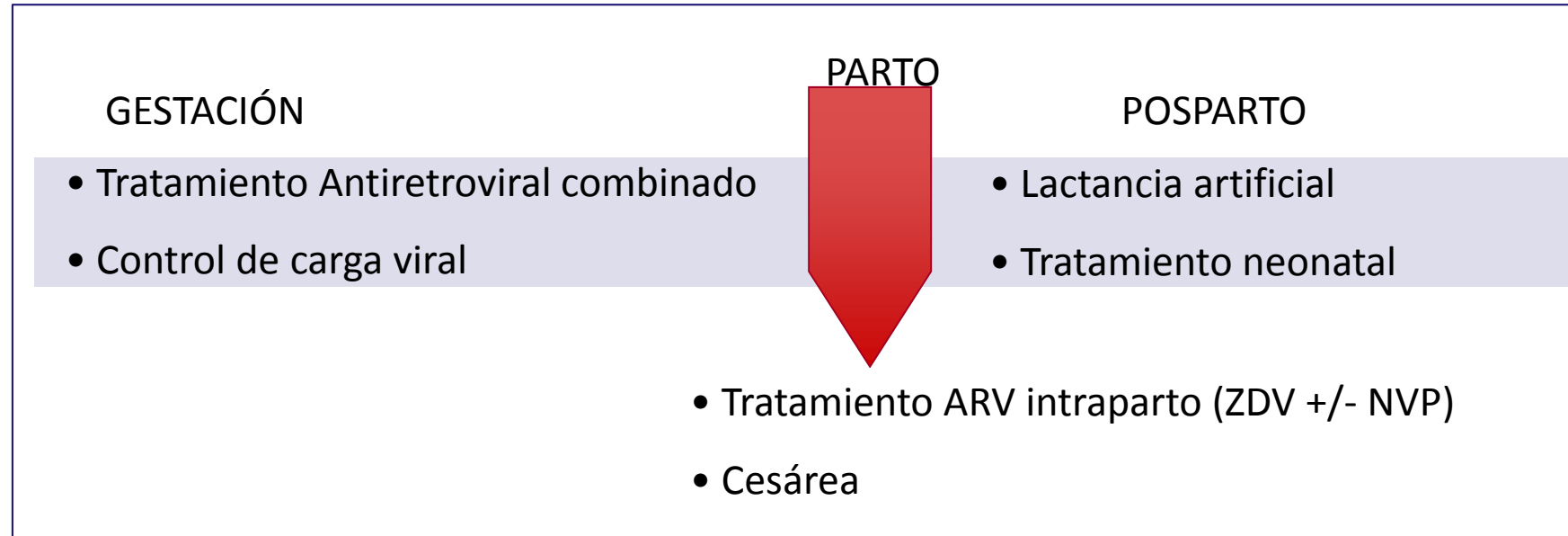


Estos datos pueden estar sobrevalorados!!!

Riesgo de transmisión depende de la carga viral



Riesgo de transmisión vertical es prácticamente nulo



Transmisión vertical 0.5 – 2%

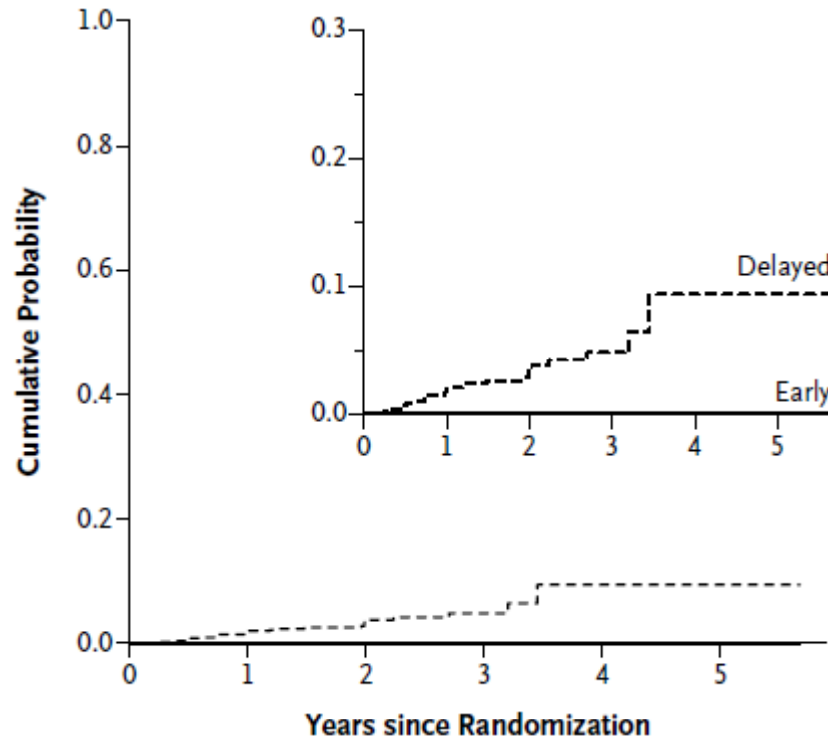


1999-2013:
Transmisión vertical (TV) **1*/398**
0.25% (IC95% 0.15 - 0.35%)

* No cumplimiento correcto del TAR

El inicio de tratamiento antirretroviral disminuye el riesgo de transmisión

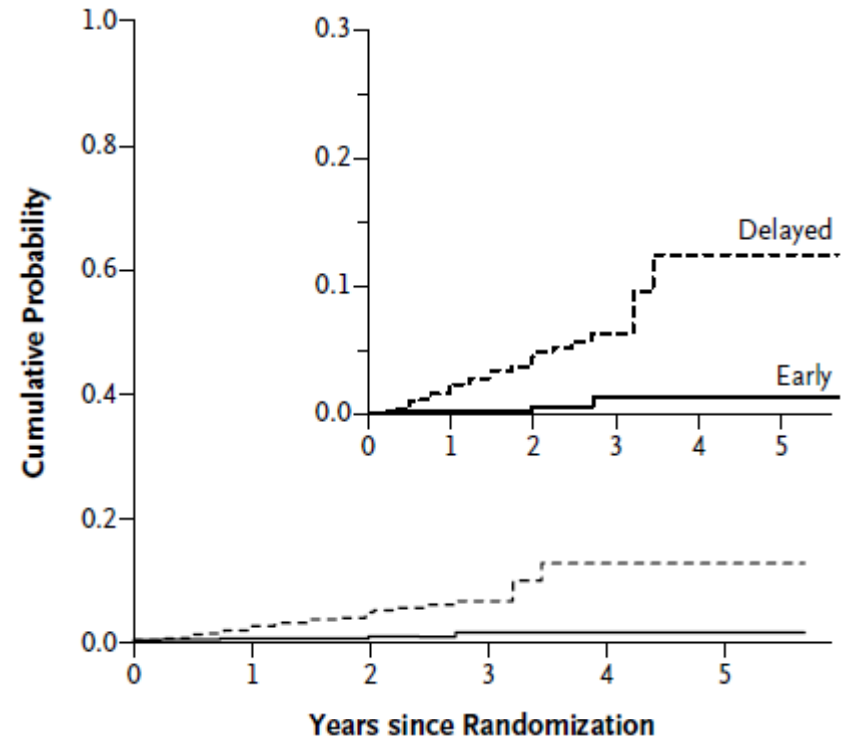
A Linked HIV Transmission



No. at Risk

Early	893	658	298	79	31	24
Delayed	882	655	297	80	26	22

B Any HIV Transmission



No. at Risk

Early	893	658	298	79	31	24
Delayed	882	655	297	80	26	22

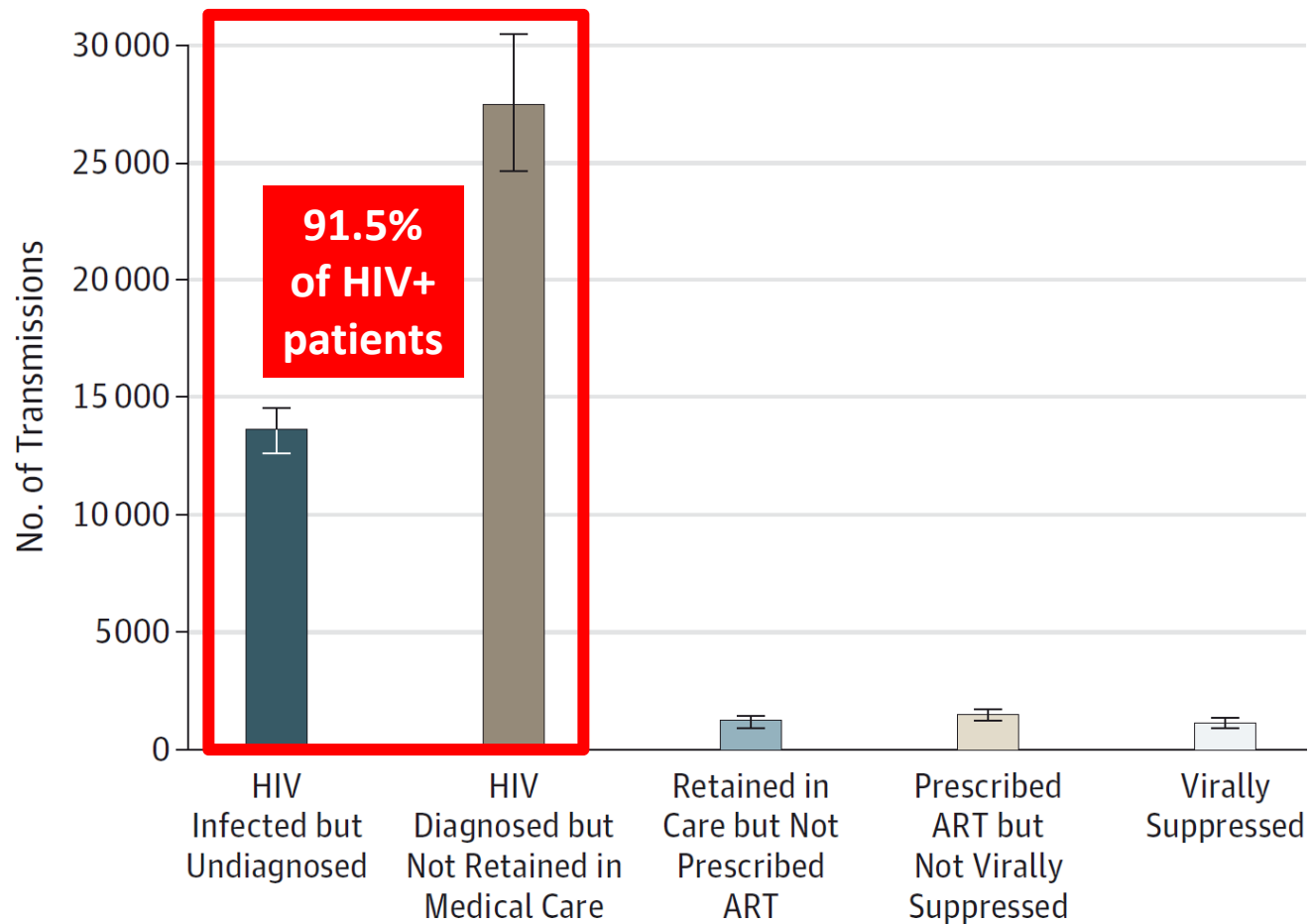
1763 HIV serodiscordant couples

Of the 28 linked transmissions, only 1 occurred in the early-therapy group

El tratamiento antirretroviral efectivo disminuye el riesgo de transmisión

HIV status and sexual orientation of couples	Risk behaviour reported by HIV -ve partner	Number of events (linked HIV transmissions)	Couple-years of follow up (CYFU)	Estimated number of sex acts	Transmission risk per condomless sexual contact (95% CI)*	Rate of within couple HIV transmission (per 100 CYFU) (95% CI)	10 year risk of within couple HIV transmission (95% CI)
Overall	Condomless sex	0	894	44,439	0 (0 - 0.00008)	0 (0-0.40)	0 (0 - 3.9%)
	Condomless sex VL<50)	0	836	41,479	0 (0 - 0.00009)	0 (0-0.43)	0 (0 - 4.2%)
	Condomless anal sex	0	374	21,032	0 (0 - 0.00017)	0 (0-0.96)	0 (0 - 9.2%)
HT m+/f- partners	Condomless sex	0	288	13,728	0 (0 - 0.00028)	0 (0-1.25)	0 (0 - 11.7%)
	Condomless vaginal sex with ejaculation	0	191	8,915	0 (0 - 0.00043)	0 (0-1.88)	0 (0 - 17.1%)
	Condomless vaginal sex without ejaculation	0	174	6,377	0 (0 - 0.00060)	0 (0-2.07)	0 (0 - 18.7%)
HT m-/f+ partners	Condomless sex	0	298	14,295	0 (0 - 0.00027)	0 (0-1.21)	0 (0 - 11.4%)
	Condomless vaginal sex	0	272	14,149	0 (0 - 0.00027)	0 (0-1.32)	0 (0 - 12.4%)
MSM	Condomless anal sex	0	308	16,416	0 (0 - 0.00023)	0 (0-1.17)	0 (0 - 11.0%)
	Condomless receptive anal sex (with or without ejaculation)	0	182	7,738	0 (0 - 0.00050)	0 (0-1.97)	0 (0-17.9%)
	Condomless insertive anal sex	0	262	11,749	0 (0 - 0.00033)	0 (0-1.37)	0 (0 - 12.8%)

¿Quién está transmitiendo hoy las nuevas infecciones por VIH?



Data from U.S.

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Prevalencia de VIH en España es baja, pero se concentra en grupos de población concretos

2.1.3. Prevalencia de VIH

La estimación del total de personas con VIH en España se realiza bianualmente, utilizando los programas «Estimation and Projection Package (EPP)» y «Spectrum», desarrollados con este fin por ONUSIDA y la OMS. Para ello, se utiliza información sobre prevalencias de VIH en distintos grupos vulnerables, estimaciones sobre el tamaño de estos grupos y datos sobre expansión del tratamiento antirretroviral. Se estima que en el año 2012, había en España 150.000 (130.000-160.000) personas con VIH (PVIH), lo que representa una prevalencia global en la población adulta española del 0,4%.

La infección por VIH en España no se distribuye por igual en el conjunto de la población por lo que la prevalencia de VIH en distintos grupos es heterogénea.

¿Cuándo solicitar la prueba del VIH?

1. Conditions which are AIDS defining among PLHIV*

Strongly recommend testing:

Neoplasms:

- Cervical cancer
- Non-Hodgkin lymphoma
- Kaposi's sarcoma

Bacterial infections

- **Mycobacterium Tuberculosis, pulmonary** or extrapulmonary
- Mycobacterium avium complex (MAC) or Mycobacterium kansasii, disseminated or extrapulmonary
- Mycobacterium, other species or unidentified species, disseminated or extrapulmonary
- **Pneumonia, recurrent (2 or more episodes in 12 months)**
- Salmonella septicaemia, recurrent

Viral infections

- Cytomegalovirus retinitis
- Cytomegalovirus, other (except liver, spleen, glands)
- Herpes simplex, ulcer(s) >1 month/bronchitis/pneumonitis
- Progressive multifocal leucoencephalopathy

Parasitic infections

- Cerebral toxoplasmosis
- Cryptosporidiosis diarrhoea, >1 month
- Isosporiasis, >1 month
- Atypical disseminated leishmaniasis
- Reactivation of American trypanosomiasis (meningoencephalitis or myocarditis)

Fungal infections

- Pneumocystis carinii pneumonia
- Candidiasis, oesophageal
- Candidiasis, bronchial/ tracheal/ lungs
- Cryptococcosis, extra-pulmonary
- Histoplasmosis, disseminated/ extra pulmonary
- Coccidioidomycosis, disseminated/ extra pulmonary
- Penicilliosis, disseminated

3. Conditions where not identifying the presence of HIV infection may have significant adverse implications for the individual's clinical management despite that the estimated prevalence of HIV is most likely lower than 0.1%

Offer testing:

- Conditions requiring aggressive immuno-suppressive therapy:
 - Cancer
 - Transplantation
 - Auto-immune disease treated with immunosuppressive therapy
- Primary space occupying lesion of the brain.
- Idiopathic/Thrombotic thrombocytopenic purpura

2a. Conditions associated with an undiagnosed HIV prevalence of >0.1%**

Strongly recommend testing:

- Sexually transmitted infections
- Malignant lymphoma
- Anal cancer/dysplasia
- Cervical dysplasia
- Herpes zoster
- Hepatitis B or C (acute or chronic)
- Mononucleosis-like illness
- Unexplained leukocytopenia/ thrombocytopenia lasting >4 weeks
- Seborrheic dermatitis/exanthema
- Invasive pneumococcal disease
- Unexplained fever
- Candidaemia
- Visceral leishmaniasis
- Pregnancy (implications for the unborn child)

2b. Other conditions considered likely to have an undiagnosed HIV prevalence of >0.1%

Offer testing:

- Primary lung cancer
- Lymphocytic meningitis
- Oral hairy leukoplakia
- Severe or atypical psoriasis
- Guillain-Barré syndrome
- Mononeuritis
- Subcortical dementia
- Multiplesclerosis-like disease
- Peripheral neuropathy
- Unexplained weightloss
- Unexplained lymphadenopathy
- Unexplained oral candidiasis
- Unexplained chronic diarrhoea
- Unexplained chronic renal impairment
- Hepatitis A
- Community-acquired pneumonia
- Candidiasis

* Based on CDC and WHO classification system [46]

** References in appendix 2

Updates to the table based on future evidence of HIV prevalence in indicator conditions under 2b can be found at www.hiveurope.eu

¿Cuándo solicitar la prueba del VIH desde la medicina primaria?

HIV Indicator Conditions

Guidance for Implementing HIV Testing in Adults in Health Care Settings

- Sexually transmitted infections
- Malignant lymphoma
- Anal cancer/dysplasia
- Cervical dysplasia
- Herpes zoster
- Hepatitis B or C (acute or chronic)
- Mononucleosis-like illness
- Unexplained leukocytopenia/ thrombocytopenia lasting >4 weeks
- Seborrheic dermatitis/exanthema
- Invasive pneumococcal disease
- Unexplained fever
- Candidaemia
- Visceral leishmaniasis
- Pregnancy (implications for the unborn child)

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- Lymphocytic meningitis
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- Peripheral neuropathy
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- Unexplained lymphadenopathy
- Unexplained oral candidiasis
- Unexplained chronic diarrhoea
- Unexplained chronic renal impairment
- Hepatitis A
- Community-acquired pneumonia
- Candidiasis

Resultados prácticos de la solicitud de la prueba de VIH guiada por condiciones indicadoras

Estudio HIDES I

	Individuals having HIV test (number)	HIV positive (number)	Prevalence (95% CI)	Number of surveys	Local HIV prevalence*	Country HIV prevalence***
Total	3588	66	1.84 (1.42–2.34)	39		0.1–1.1
<u>Indicator condition</u>						
Sexually transmitted infection (STI)	764	31	4.06 (2.78–5.71)	4	0.8–3.0	0.2–0.3
Malignant lymphoma (LYM)	344	1	0.29 (0.006–1.61)	5	0.8	0.1–0.2
Cervical or anal dysplasia or cancer (CAN)	542	2	0.37 (0.04–1.32)	4	0.8	0.1–0.2
Herpes zoster (HZV)	207	6	2.89 (1.07–6.21)	5	0.3–0.9	0.1–0.4
Hepatitis B or C (HEP)	1099	4	0.36 (0.10–0.93)	6	0.2–2.8**	0.1–1.1
Ongoing mononucleosis-like illness (MON)	441	17	3.85 (2.26–6.10)	7	0.2–0.9	0.3–1.1
Unexplained leukocytopenia/thrombocytopenia (CYT)	94	3	3.19 (0.66–9.04)	4	0.3–0.8	0.1–0.4
Seborrheic dermatitis/exanthema (SEB)	97	2	2.06 (0.25–7.24)	4	0.3–0.8	0.2–0.4

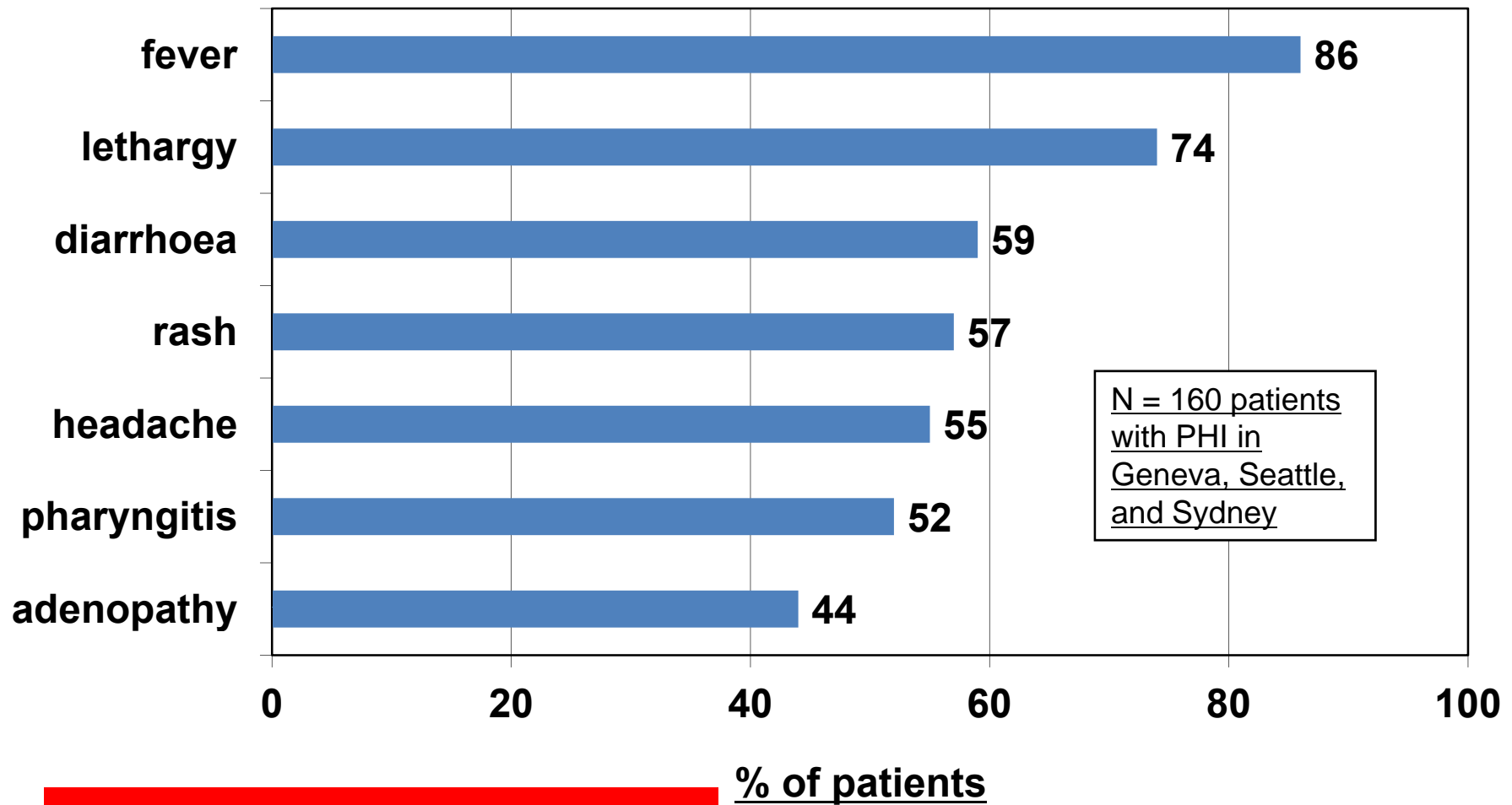
*Unpublished prevalence data from participating study sites.

**includes MSM, IDU prevalence.

***UNAIDS adults aged 15–49 country HIV prevalence rate [31].

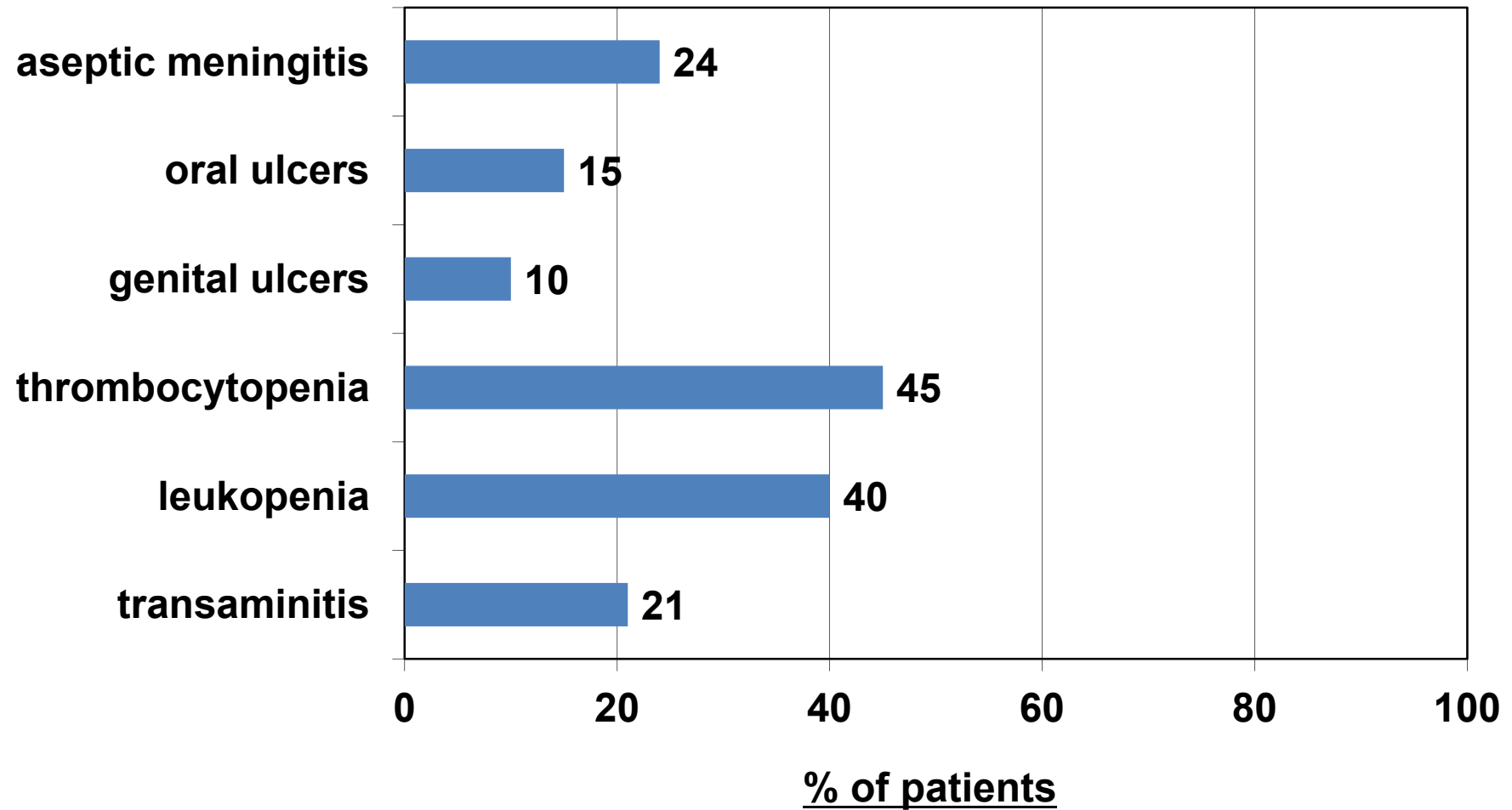
doi:10.1371/journal.pone.0052845.t002

Primoinfección por VIH: Síntomas & Signos más frecuentes

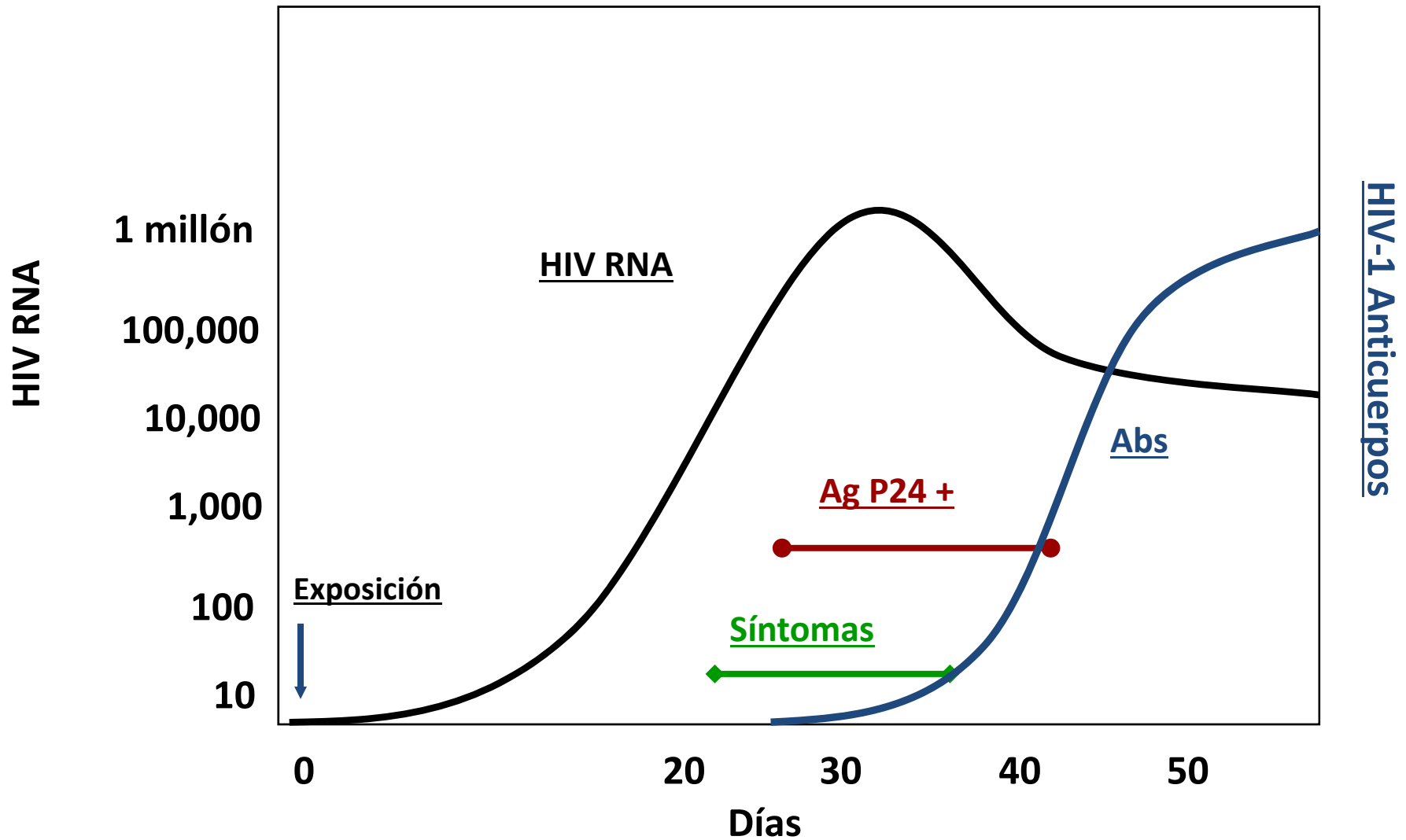


ABSENCE OF COUGH / RHINITIS

Primoinfección por VIH: Síntomas & Signos posibles, pero menos frecuentes



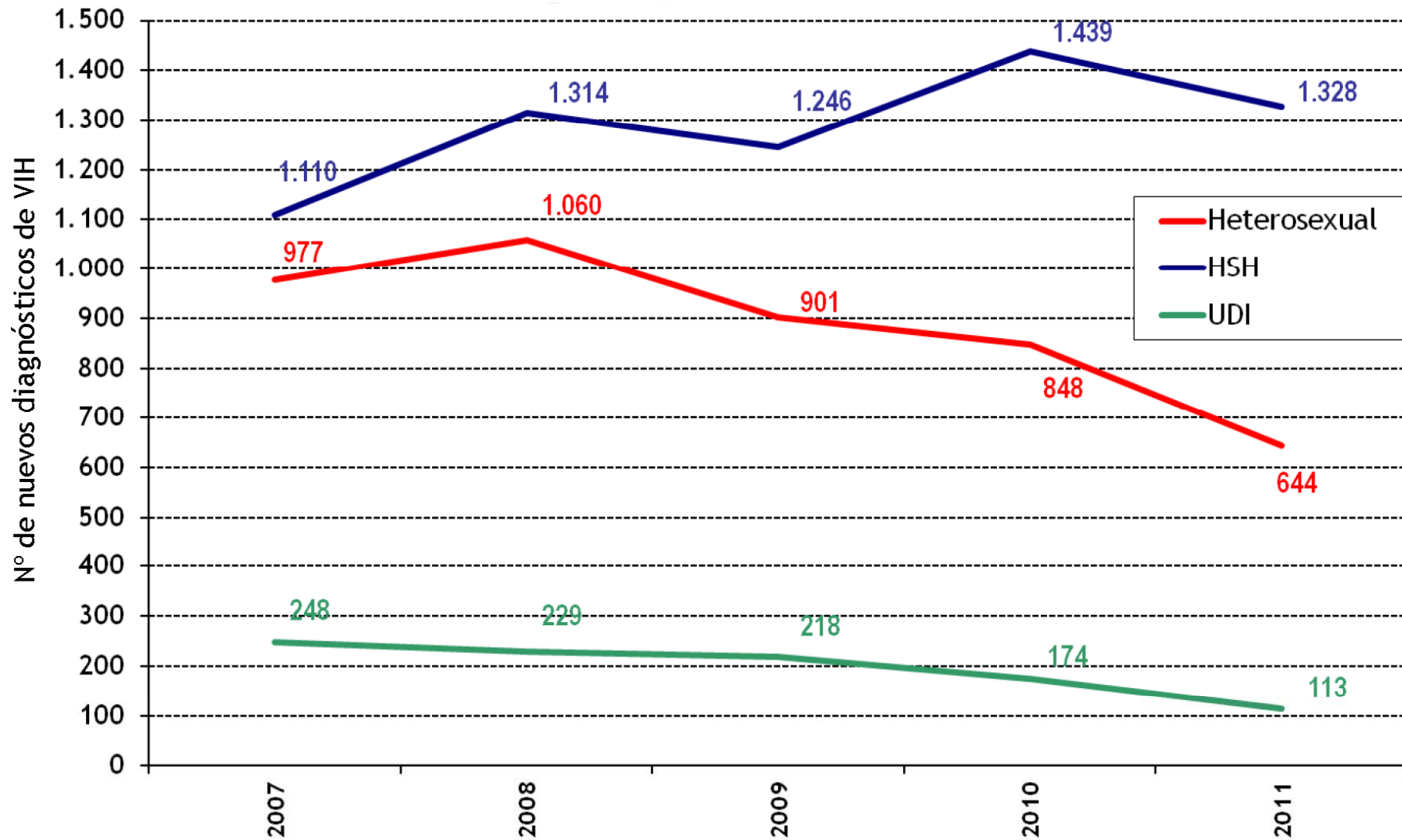
Pruebas diagnósticas para la primoinfección por VIH



Agenda

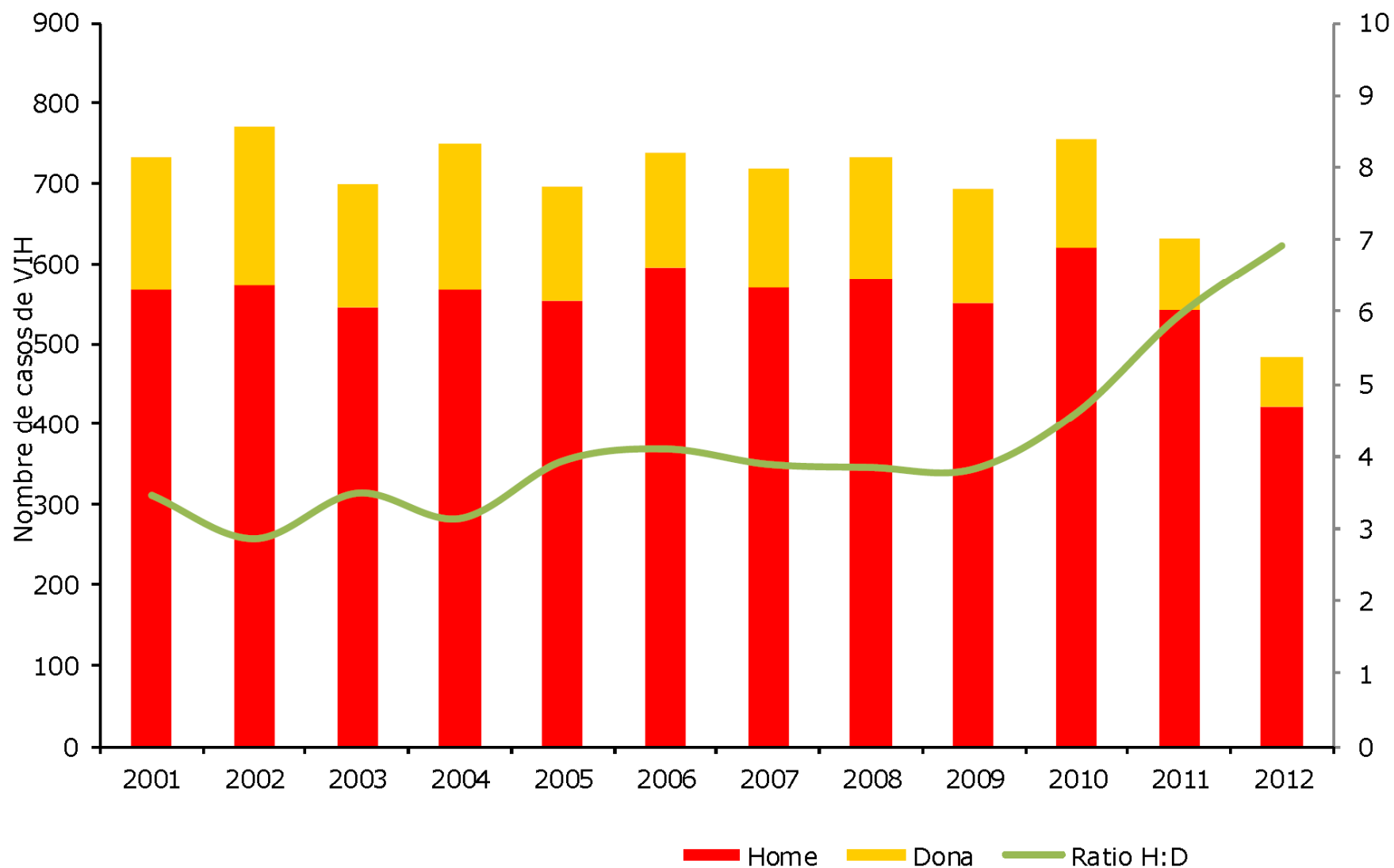
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↓ incidence of HIV infections in Spain



Datos de 11 CCAA: Asturias, Baleares, Canarias, Cataluña, Ceuta, Extremadura, Galicia, La Rioja, Madrid, Navarra y País Vasco

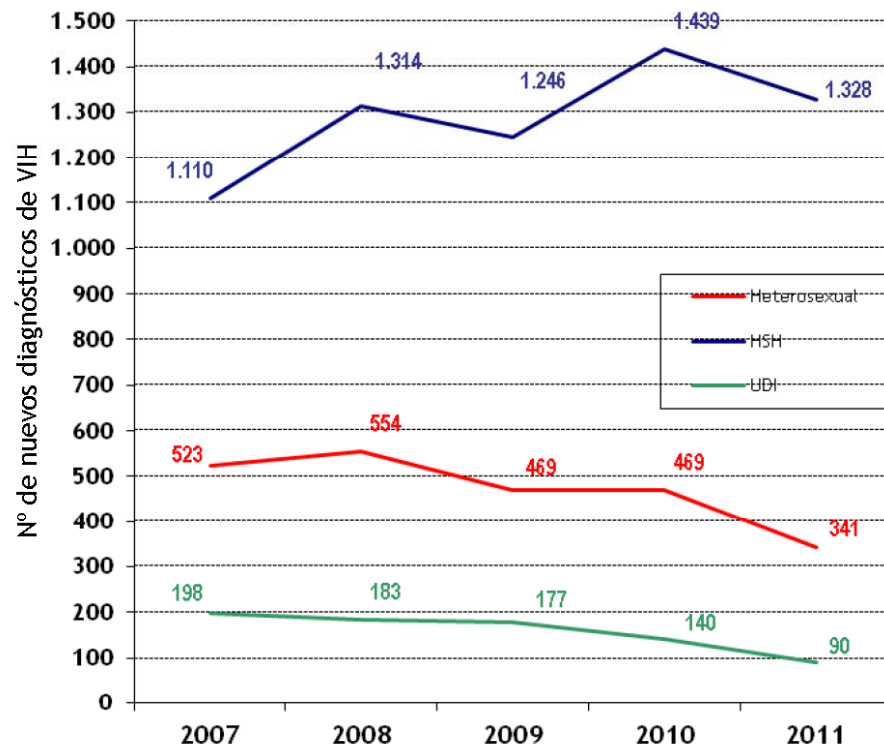
↓ incidence of HIV infections in Catalonia



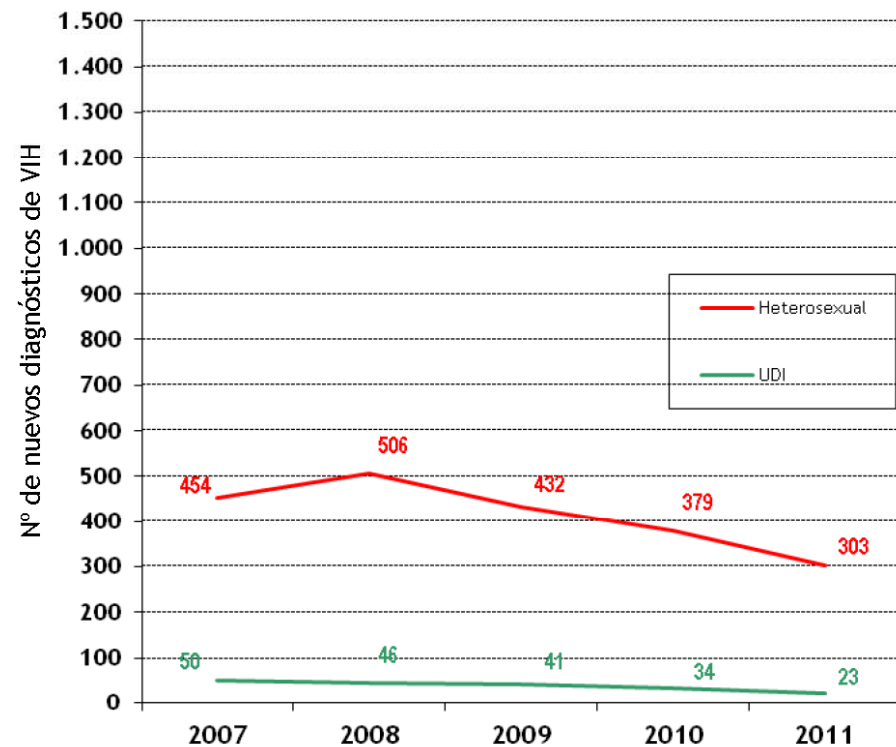
VIGILÀNCIA EPIDEMIOLÒGICA DE LA INFECCIÓ PEL VIH I LA SIDA A CATALUNYA: Actualització a 31 de desembre de 2012,
Centre d'Estudis Epidemiològics sobre les Infeccions de Transmissió Sexual i Sida de Catalunya

MSM cases make the difference

New HIV infections diagnosed in Spain (2007-2011)
by transmission and gender



Hombres

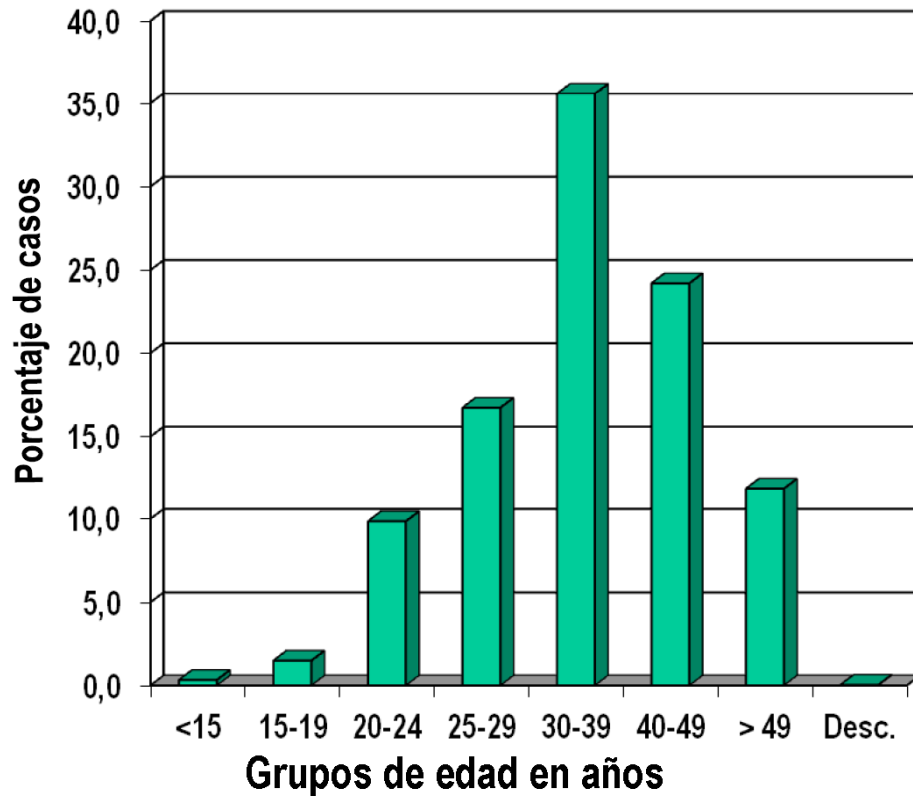


Mujeres

Datos de 11 CCAA: Asturias, Baleares, Canarias, Cataluña, Ceuta, Extremadura, Galicia, La Rioja, Madrid, Navarra y País Vasco

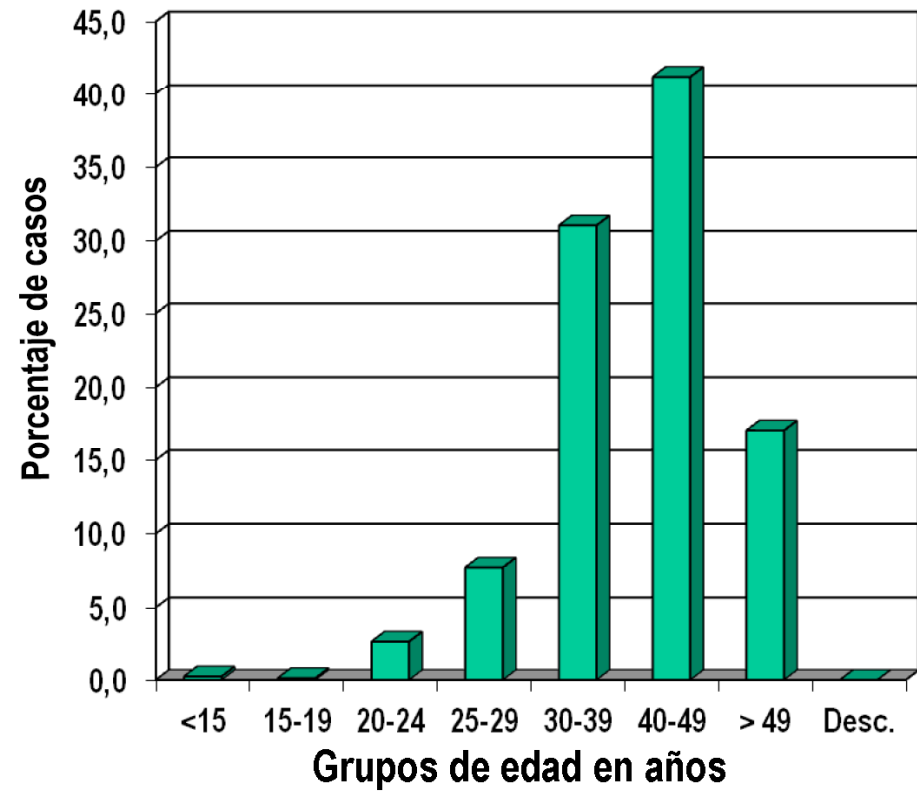
More advanced disease in older persons

Diagnósticos de VIH (2011)
Datos de 17 CCAA
Edad



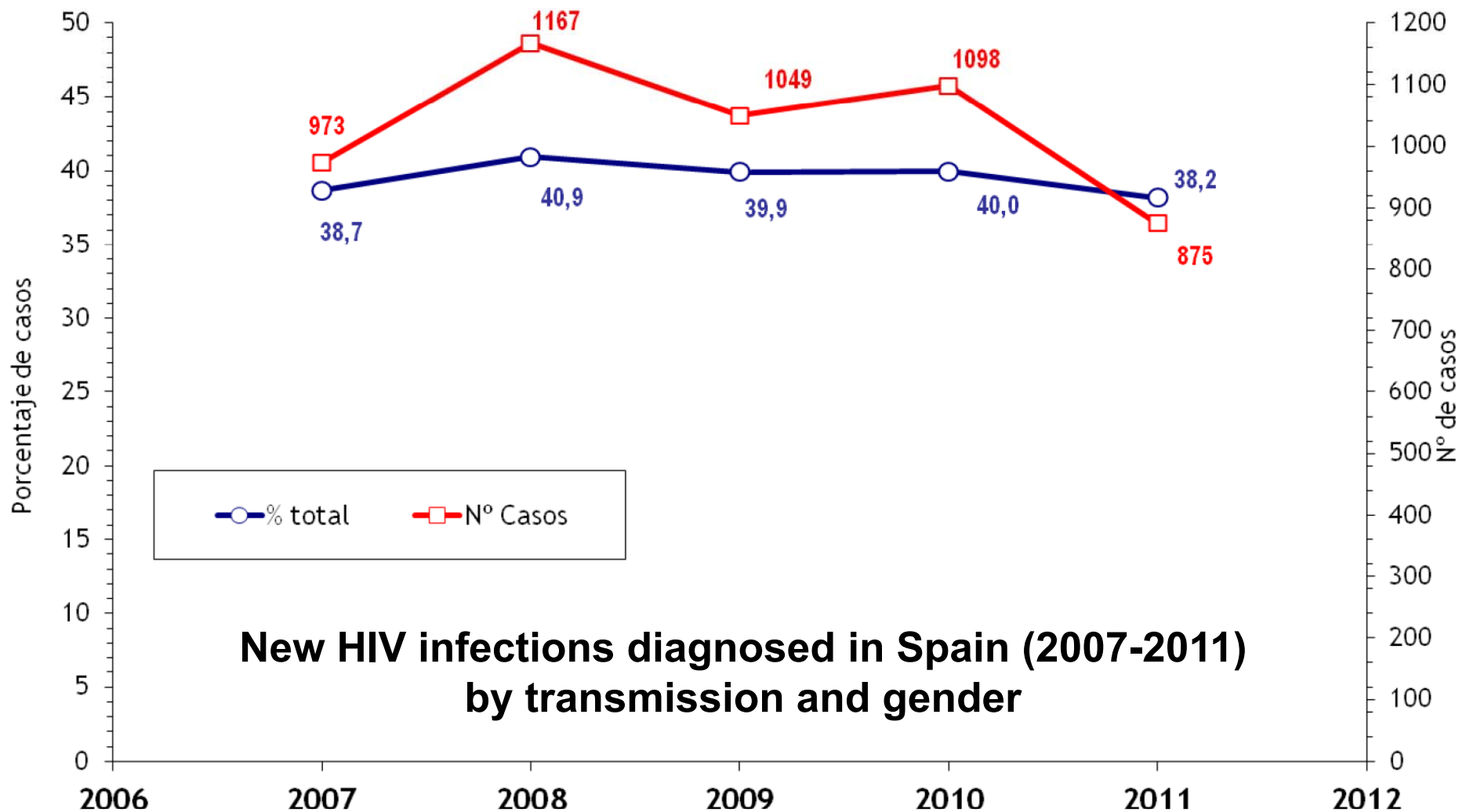
N=2.763

Casos de SIDA (2011)
Registro Nacional del SIDA
Edad



N=844

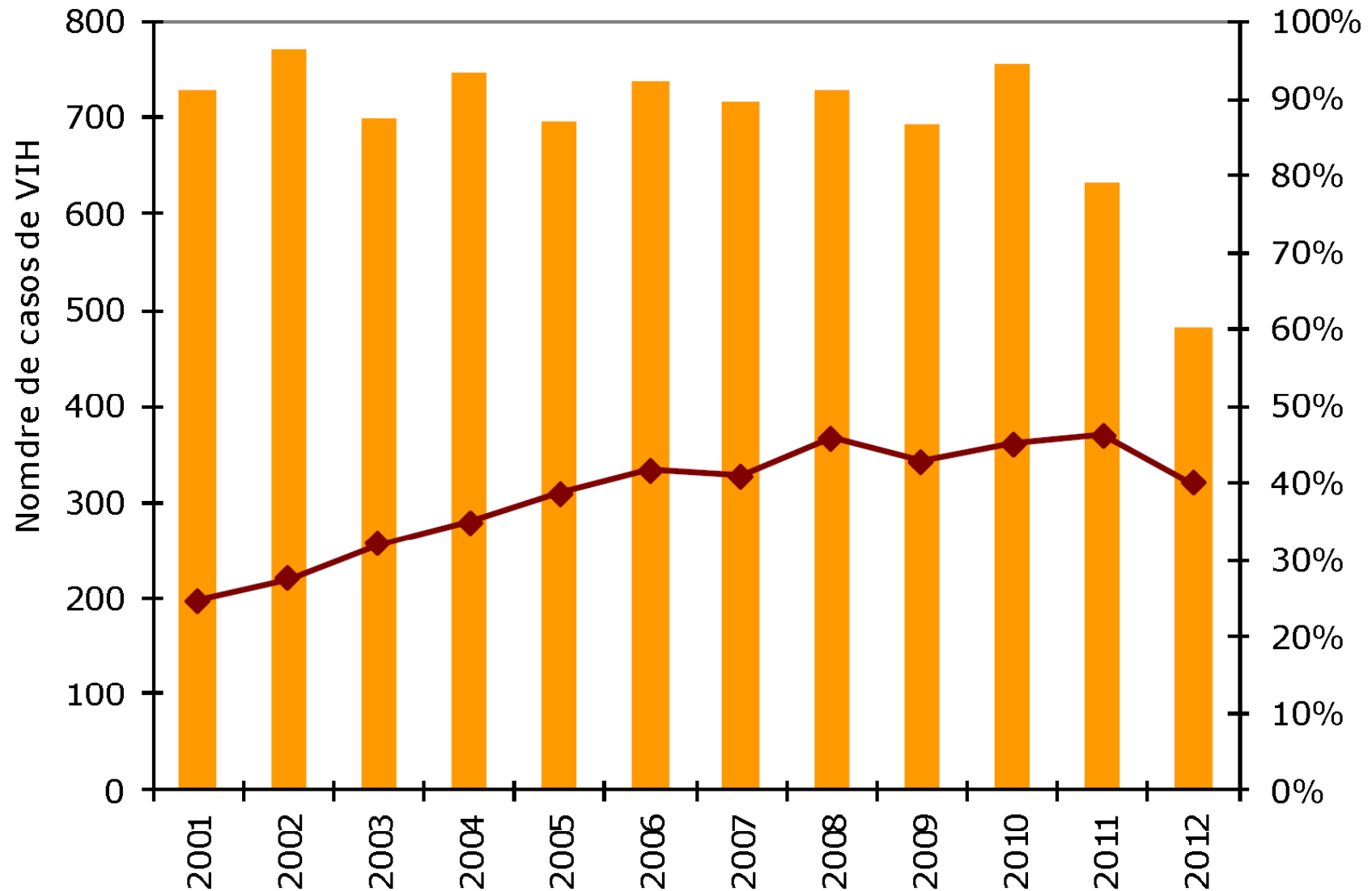
New HIV infections in Spain: Contribution of immigrants



**New HIV infections diagnosed in Spain (2007-2011)
by transmission and gender**

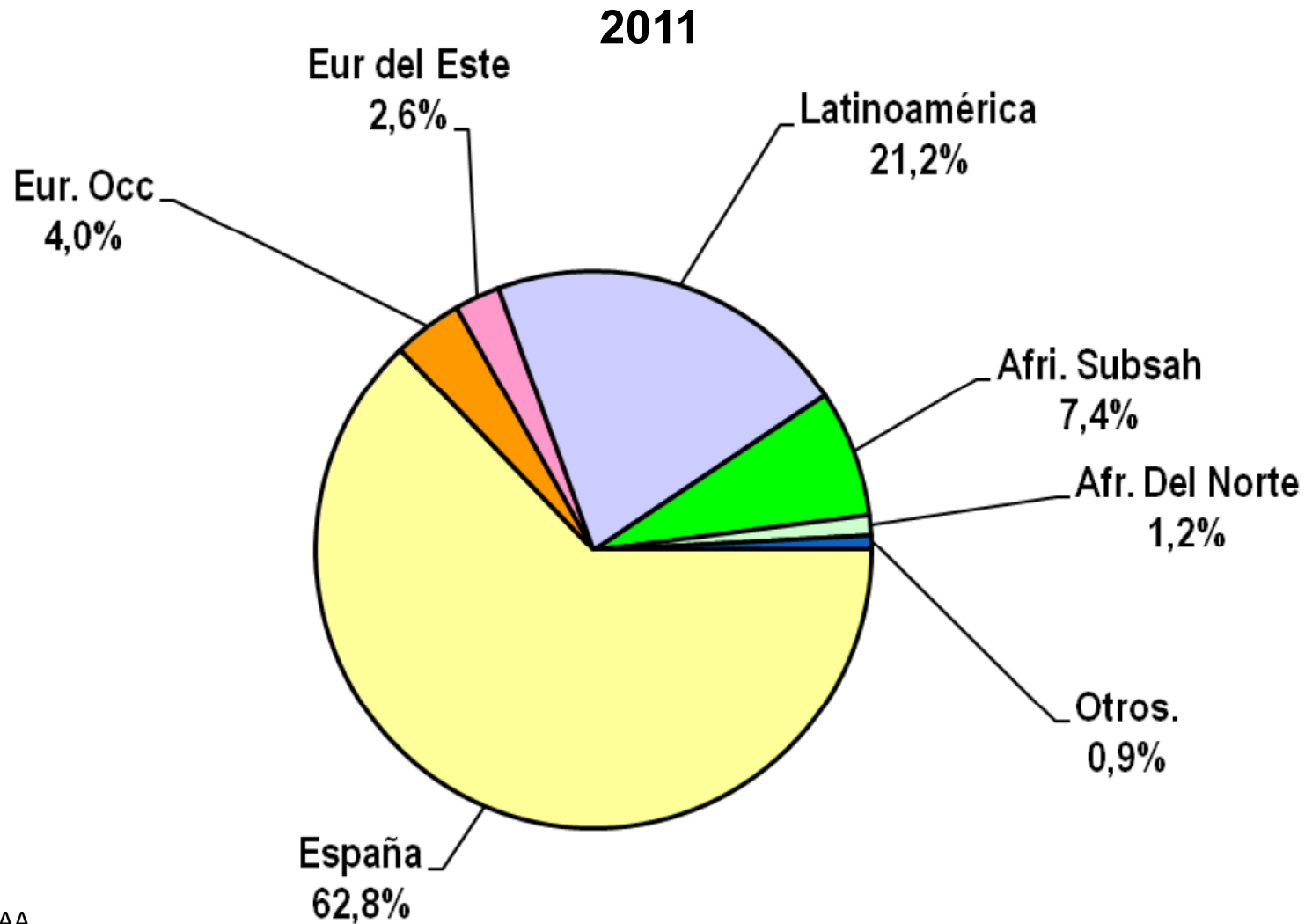
Datos de 11 CCAA: Asturias, Baleares, Canarias, Cataluña, Ceuta, Extremadura, Galicia, La Rioja, Madrid, Navarra y País Vasco

New HIV infections in Catalonia: Contribution of immigrants



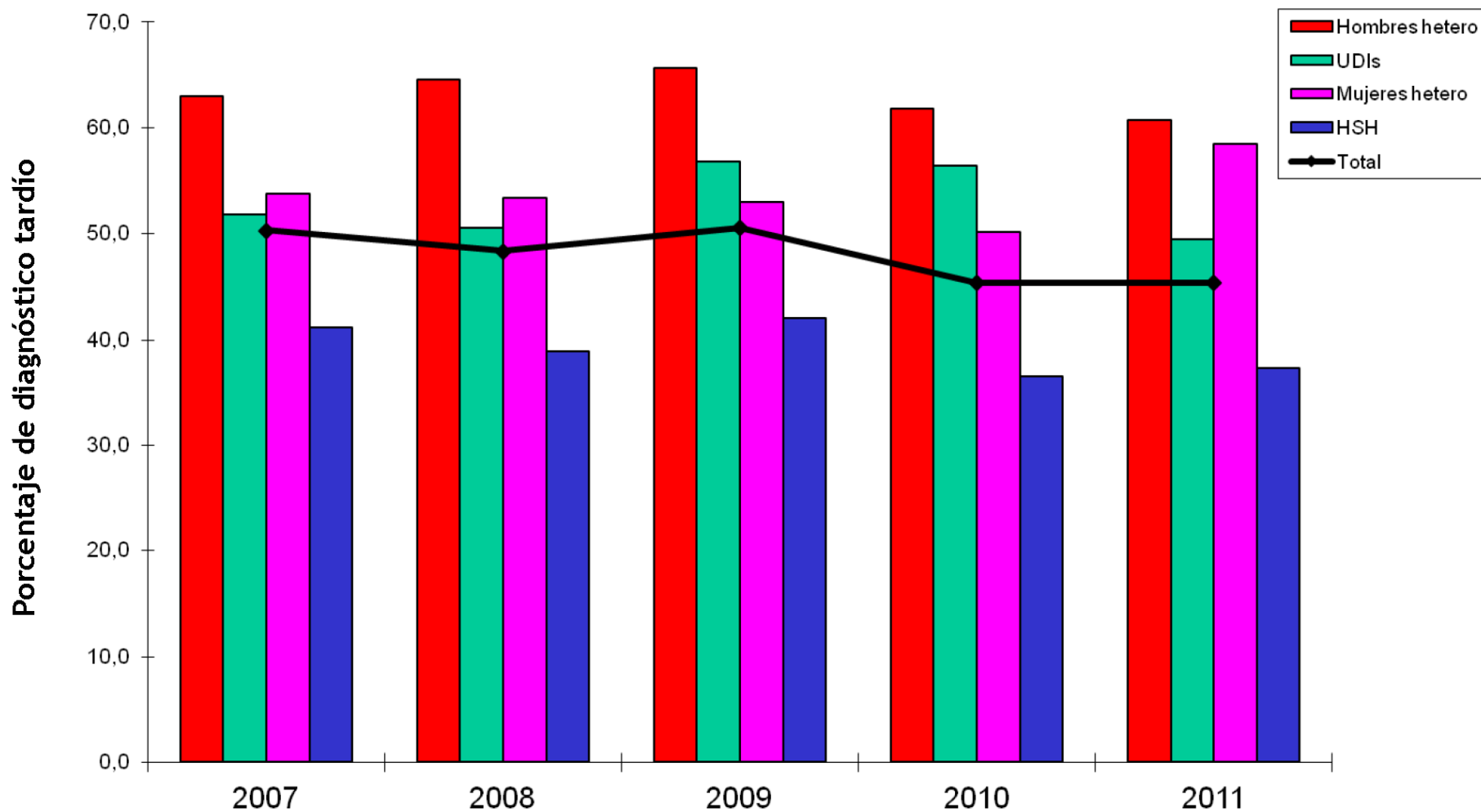
VIGILÀNCIA EPIDEMIOLÒGICA DE LA INFECCIÓ PEL VIH I LA SIDA A CATALUNYA: Actualització a 31 de desembre de 2012,
Centre d'Estudis Epidemiològics sobre les Infeccions de Transmissió Sexual i Sida de Catalunya

Most new HIV infections in immigrants in Spain come from Latin America



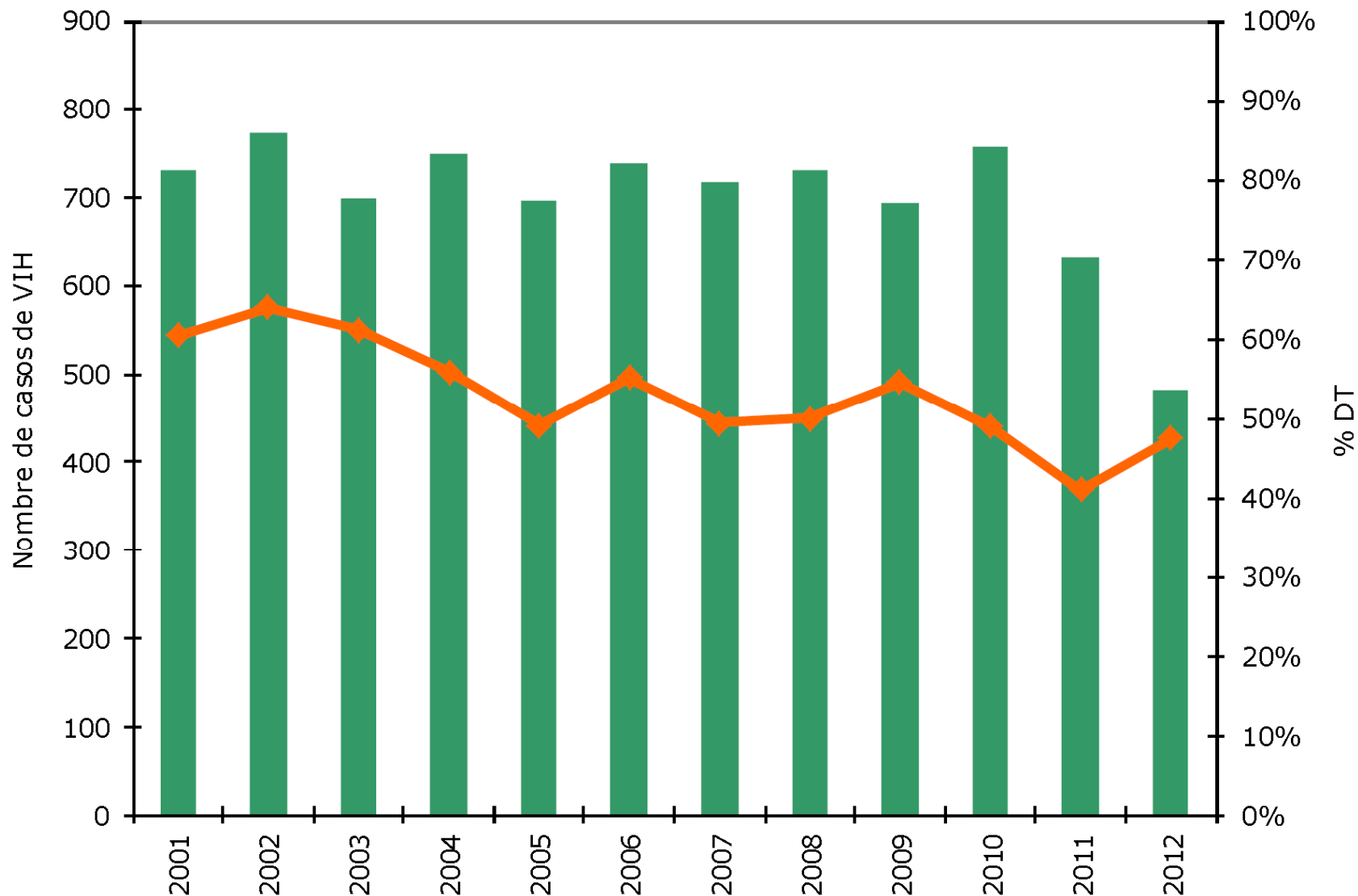
Datos de 17 CCAA

Late (<350 CD4/mm³) HIV diagnosis has remained stable in Spain



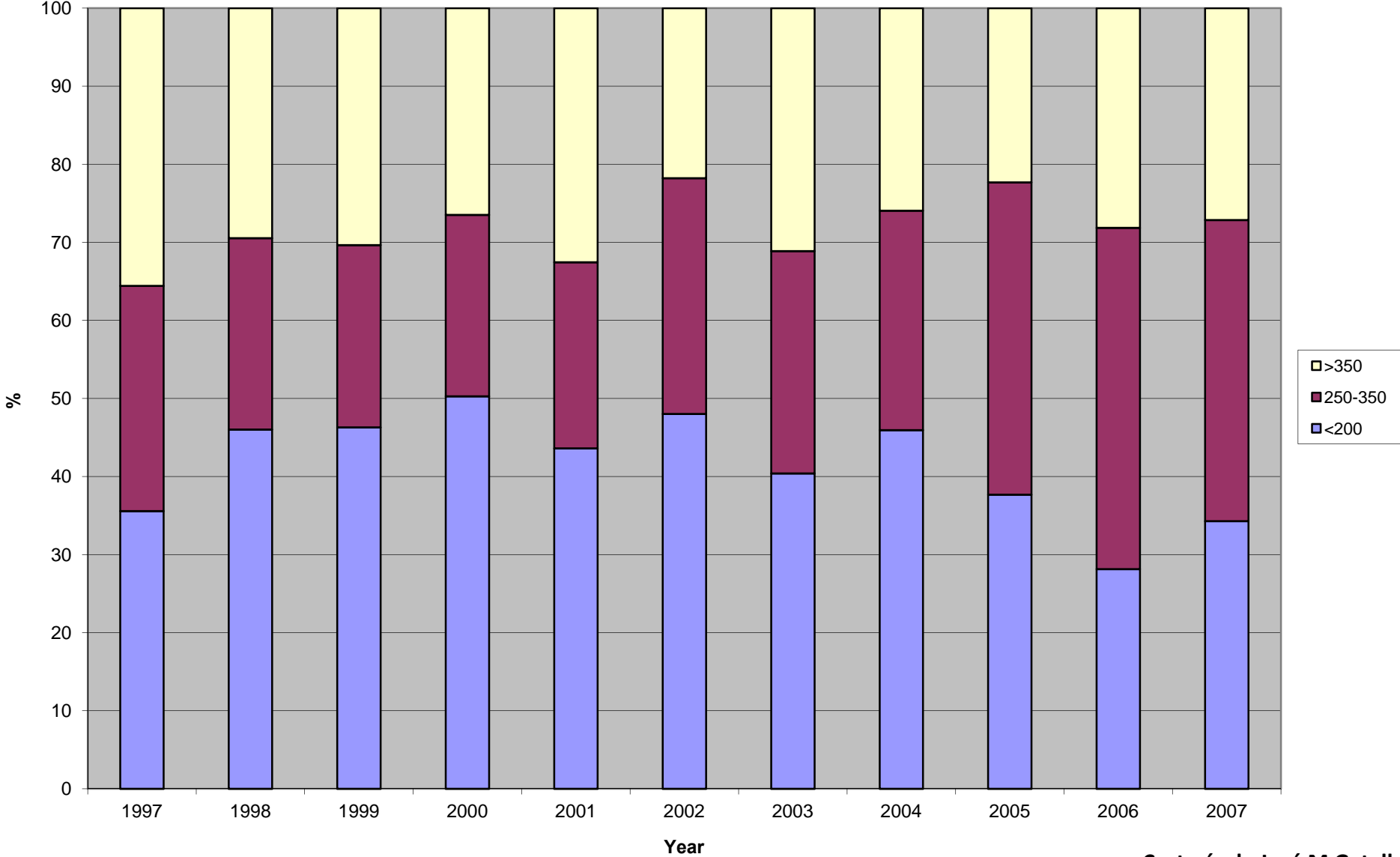
Datos de 11 CCAA: Asturias, Baleares, Canarias, Cataluña, Ceuta, Extremadura, Galicia, La Rioja, Madrid, Navarra y País Vasco

Late (<350 CD4/mm³) HIV diagnosis has also remained stable in Catalonia



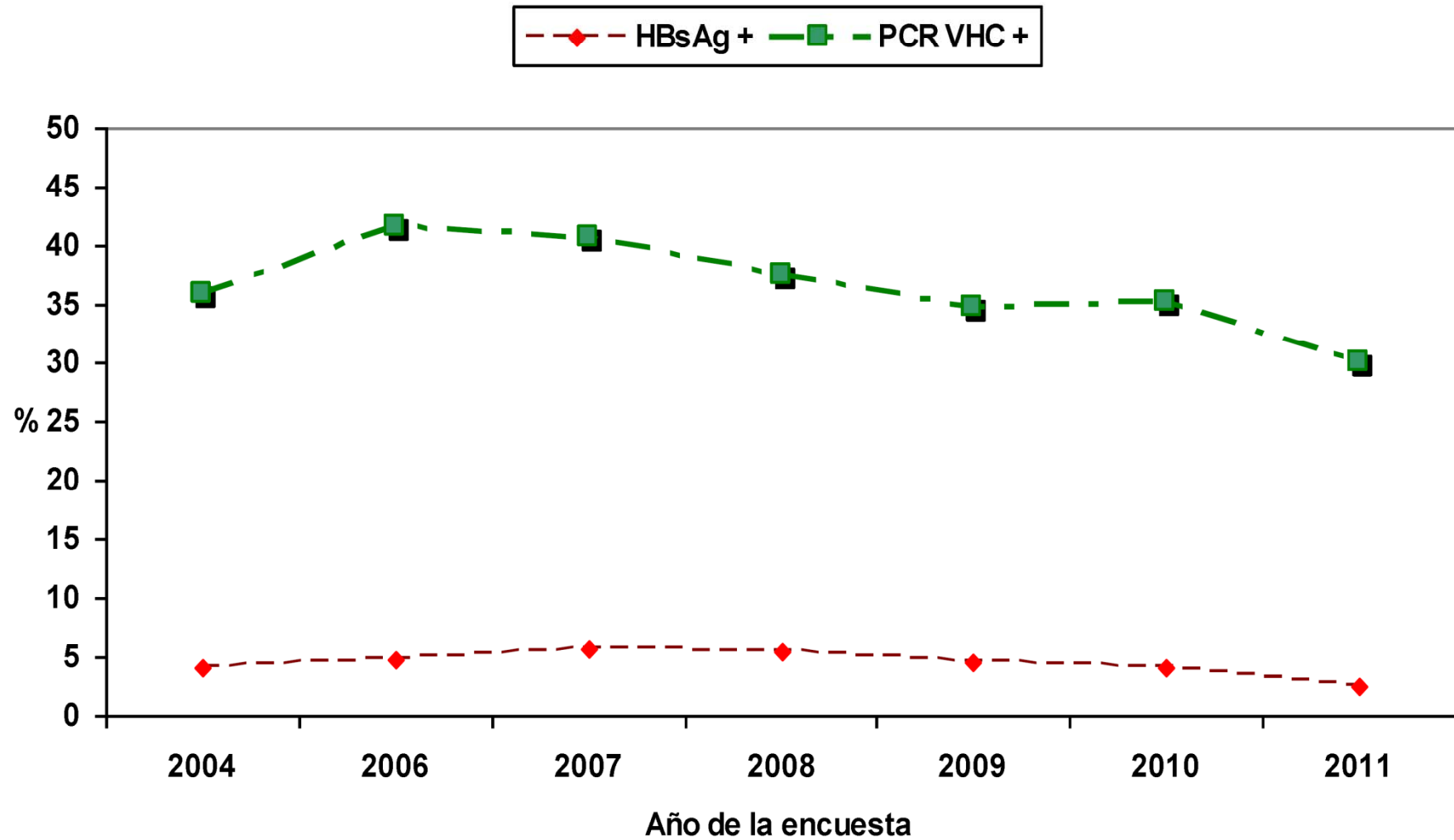
VIGILÀNCIA EPIDEMIOLÒGICA DE LA INFECCIÓ PEL VIH I LA SIDA A CATALUNYA: Actualització a 31 de desembre de 2012, Centre d'Estudis Epidemiològics sobre les Infeccions de Transmissió Sexual i Sida de Catalunya

Late (<350 CD4/mm³) HIV diagnosis has also remained stable in Hospital Clínic



Cortesía de José M Gatell

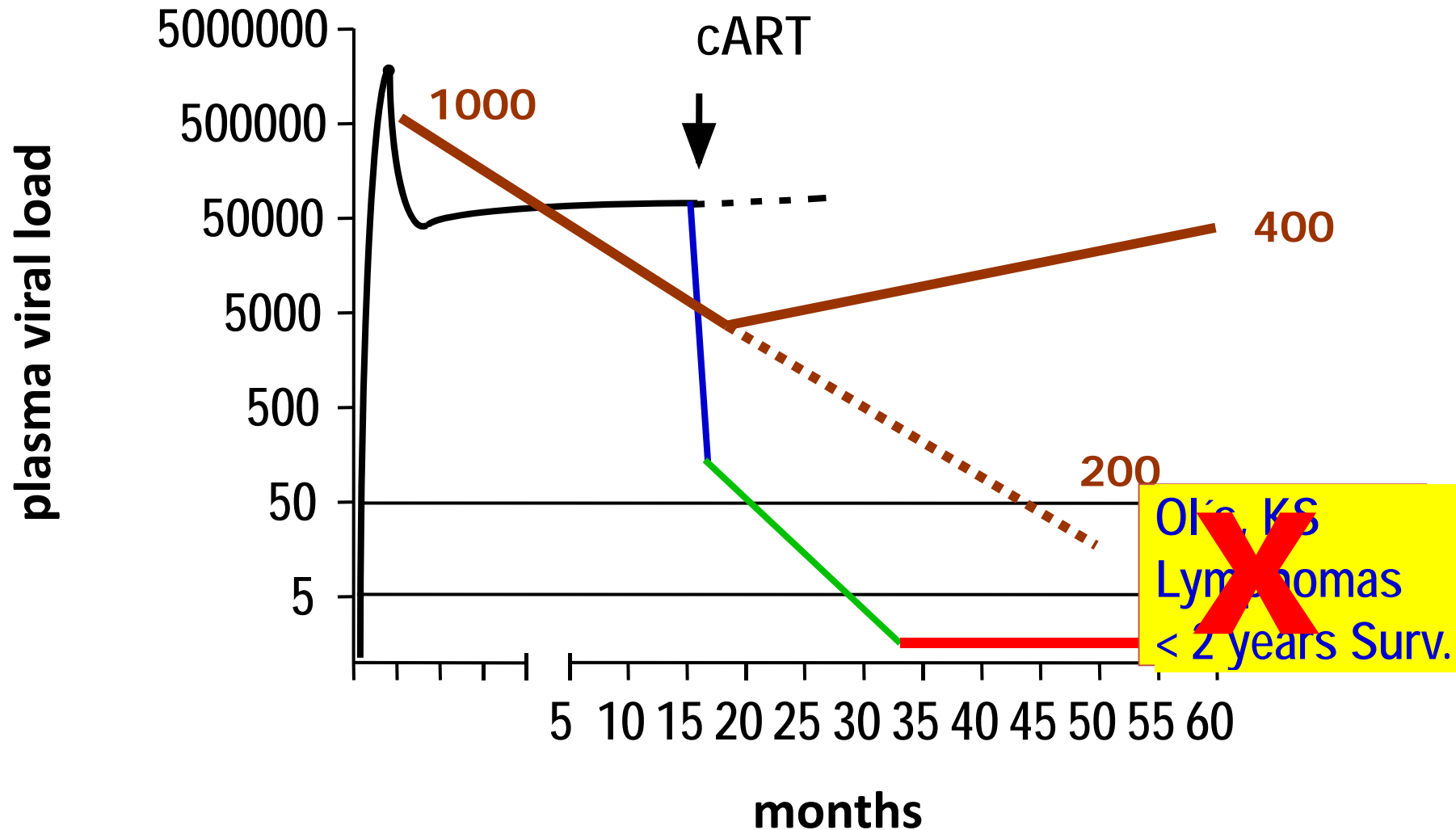
Co-infections with hepatitis B and C in Spain



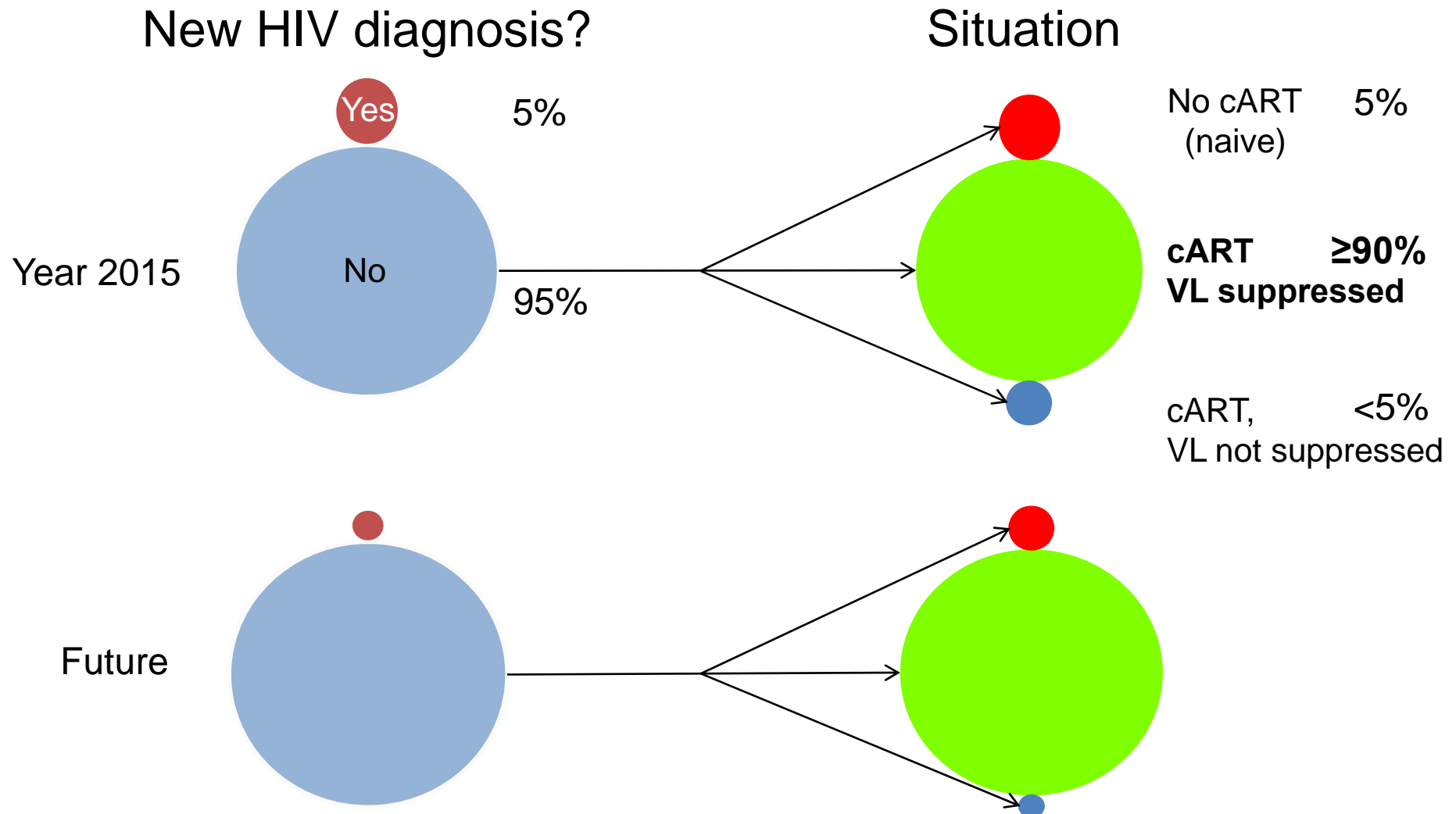
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cART is expected to lead to undetectable plasma HIV RNA and better CD4 cells

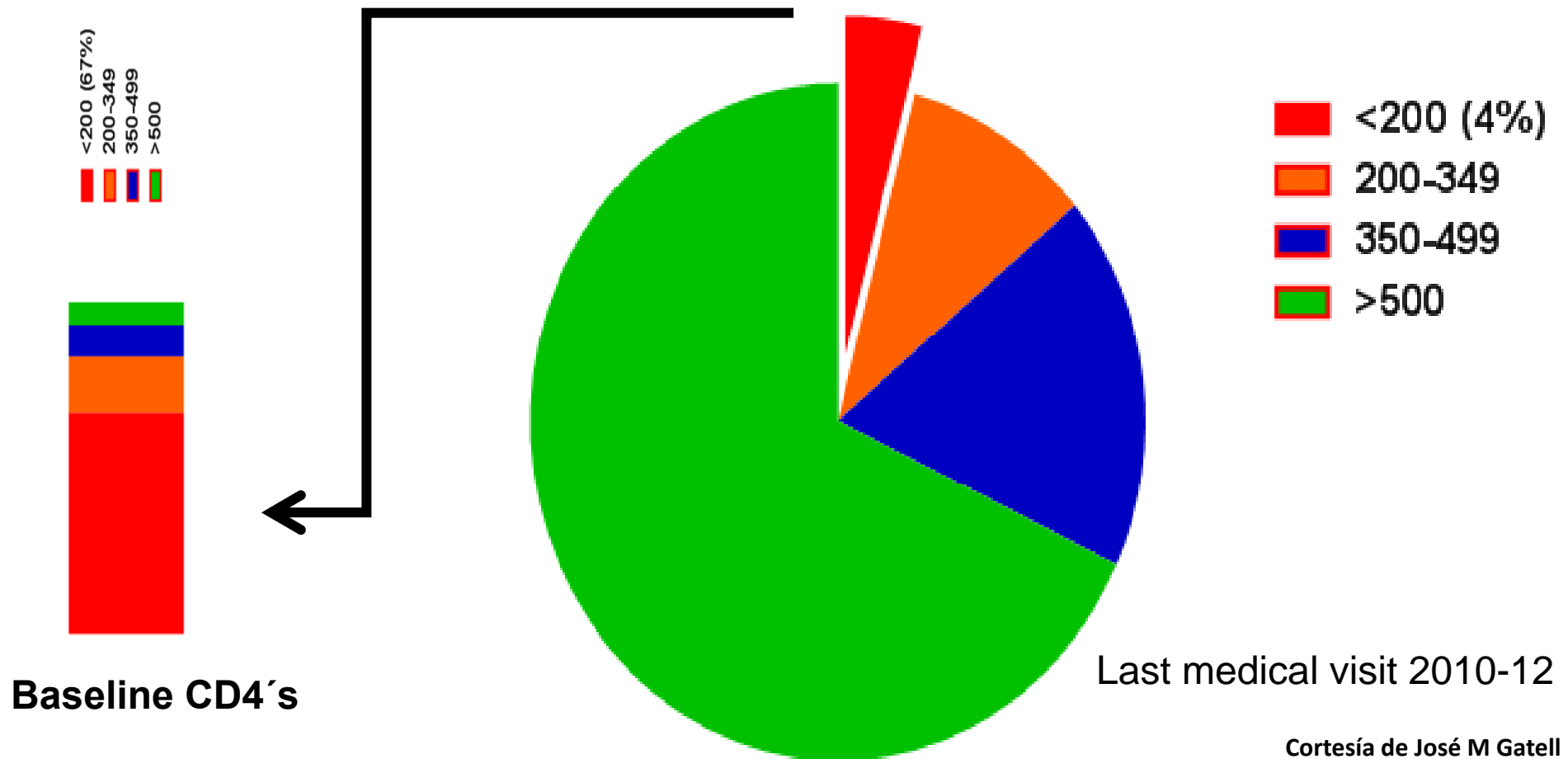


Overview of HIV patients at Hospital Clínic (Barcelona) according to cART



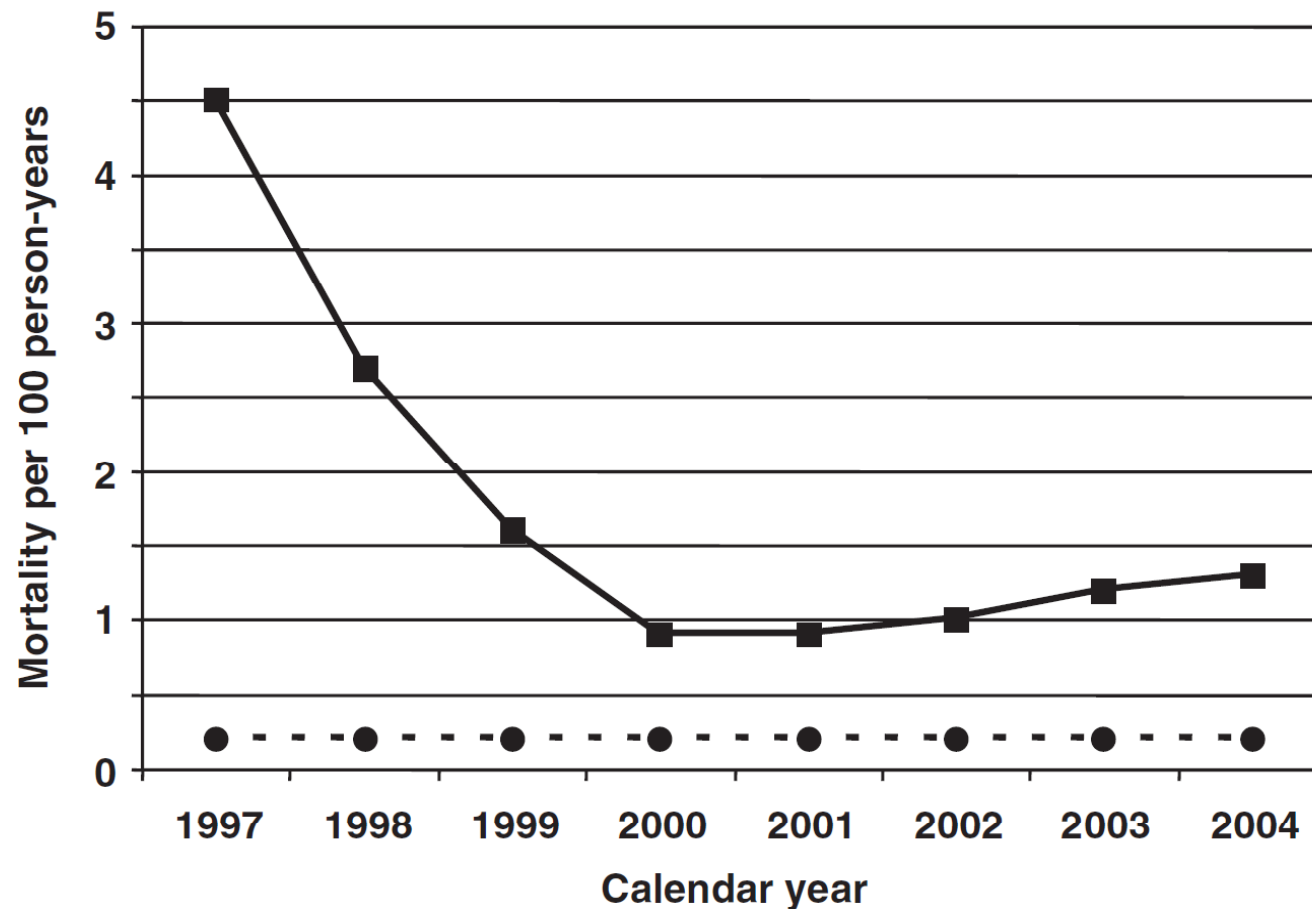
CD4 cells after ≥ 2 years of successful cART

Hospital Clinic, Barcelona. N=3347



Decreasing incidence of mortality in HIV-infected patients with cART

Incidence of mortality in the Hospital Clínic HIV cohort compared with the general population aged 16-65 years in Catalonia



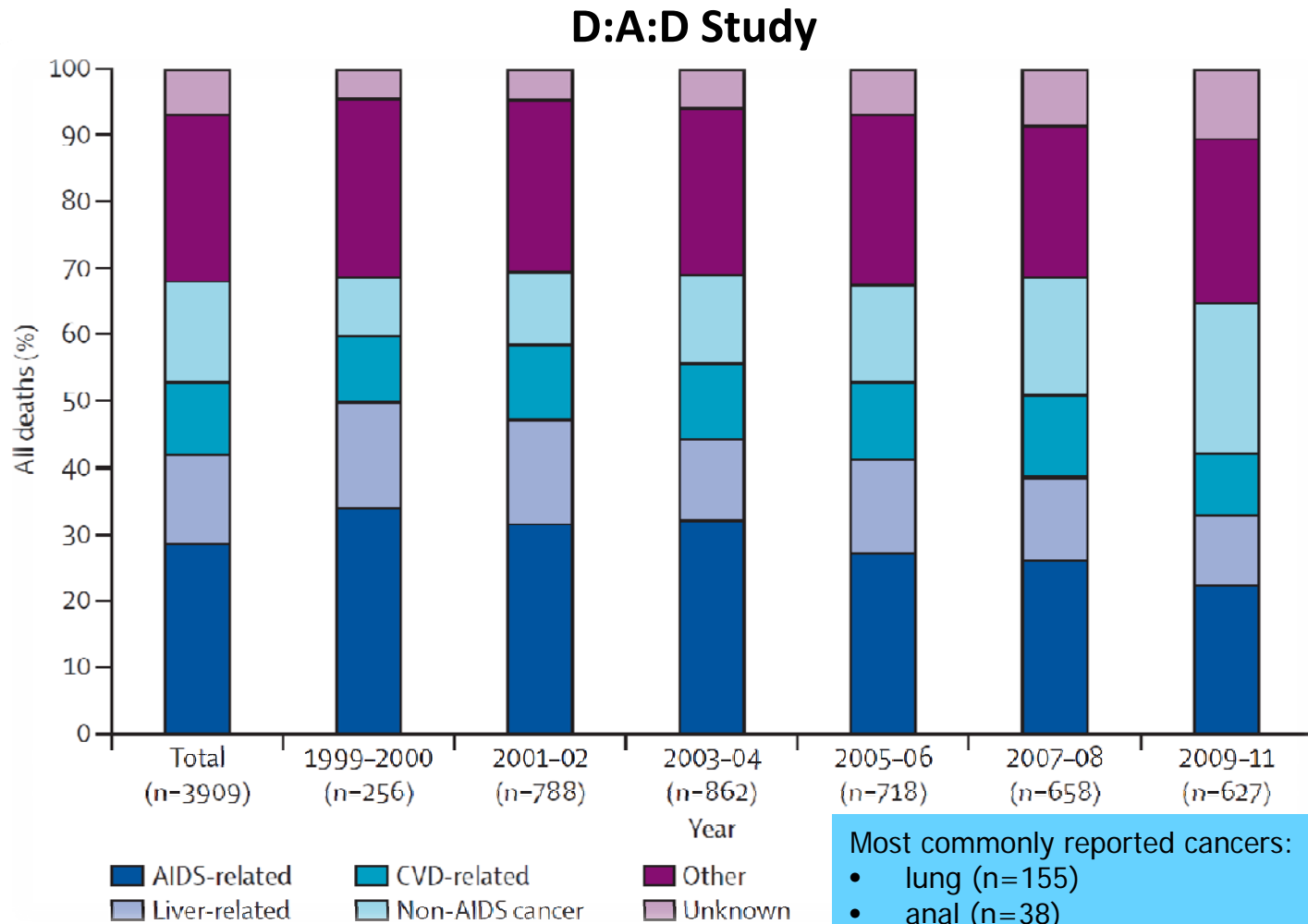
Mortality rates due to non-AIDS causes of death are still higher for HIV persons

Health Protection Agency (England and Wales)
Retrospective analysis 1997-2010

- **3,814 deaths in 70,914 HIV+ adults followed for 319,082 PY**
- 50.2% died of non-AIDS related causes

Crude mortality rate, 2010	Per 1,000 population aged 15-59
General Population (all cause)	1.6
HIV-infected population (Non-AIDS cause of death)	3.6

Most common causes of death in HIV patients: AIDS-related decreasing and non-AIDS-cancer increasing



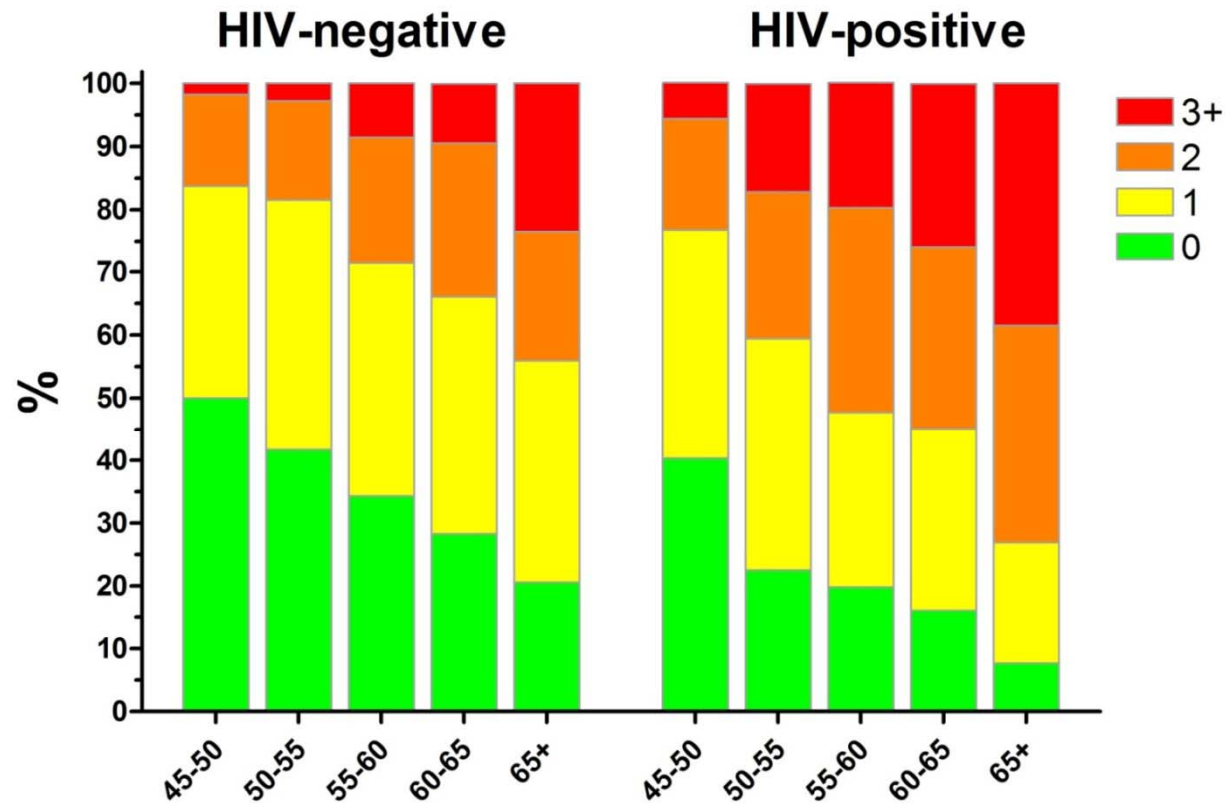
Most commonly reported cancers:

- lung (n=155)
- anal (n=38)
- head & neck (n=35)
- Hodgking's lymphoma (n=26)

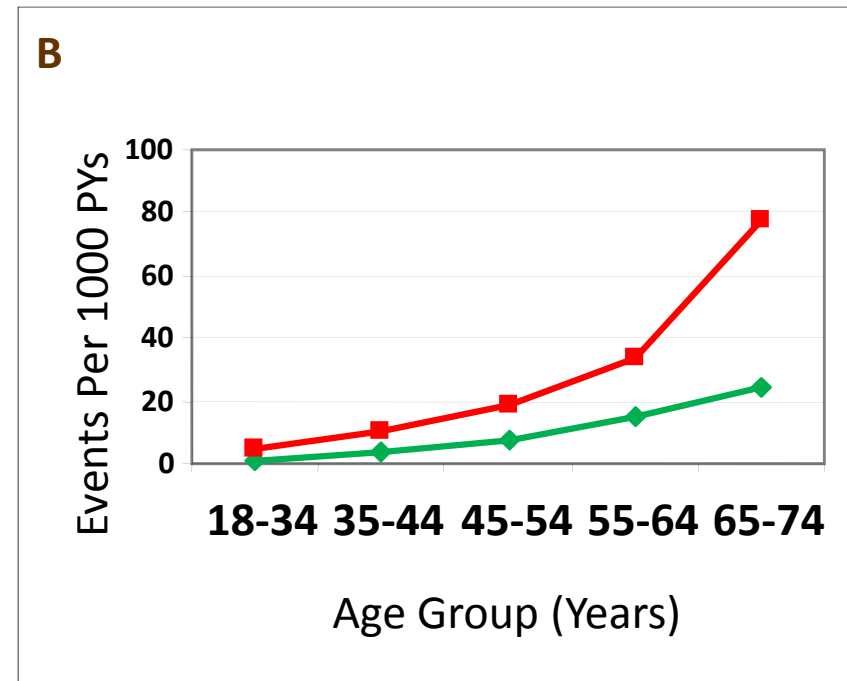
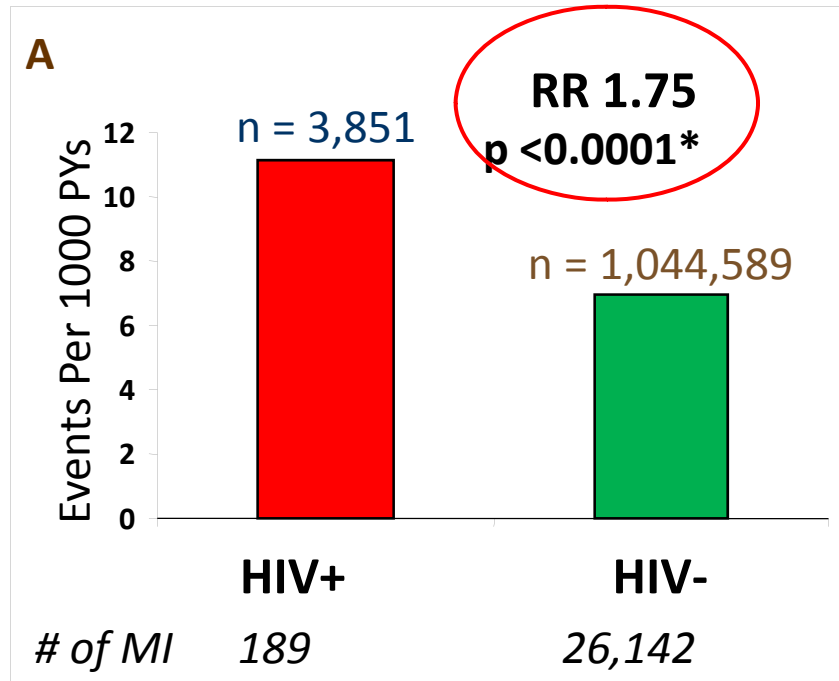
ICD-10 (until 2004)
CoDe (from 2004 on)

Comorbidities more common with increasing age but ¿also earlier in HIV+?

Academic Medical Center and a sexual health clinic,
Amsterdam



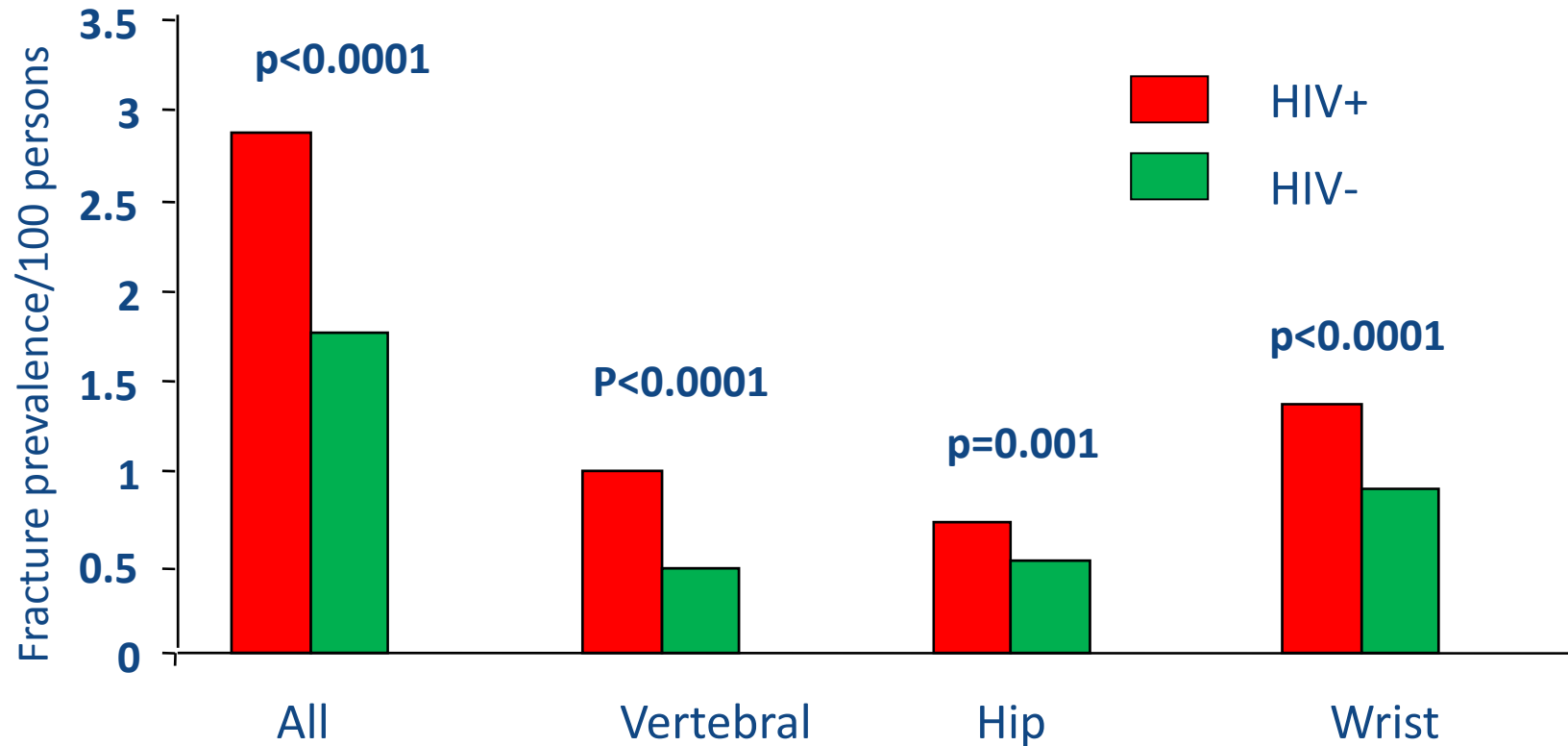
HIV-infected patients have a higher incidence of myocardial infarction



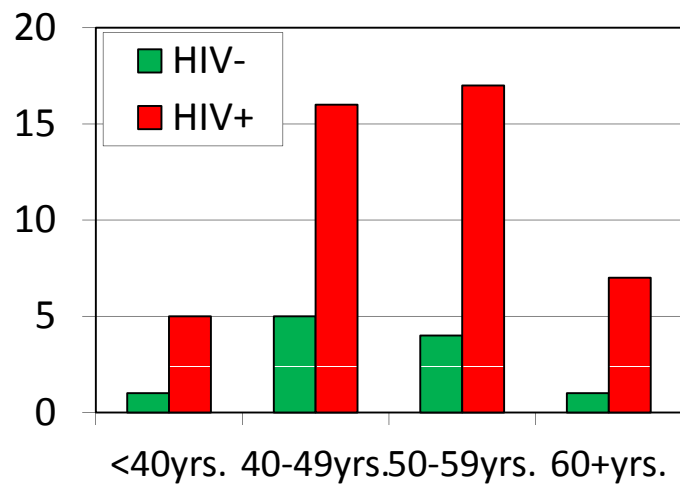
*** Adjusted for age, gender, race, hypertension, diabetes and dyslipidaemia. Proportion of patients with hypertension, diabetes and dyslipidaemia significantly higher in HIV-positive vs HIV-negative cohort**

Greater rate of fractures in HIV- infected patients vs uninfected individuals

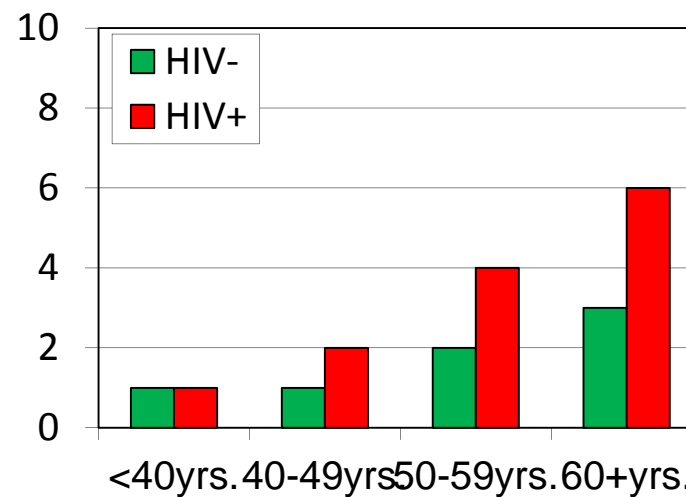
Population-based study
8,525 HIV-infected patients
2,208,792 non HIV-infected patients



Liver and kidney comorbidities more common in HIV+ patients

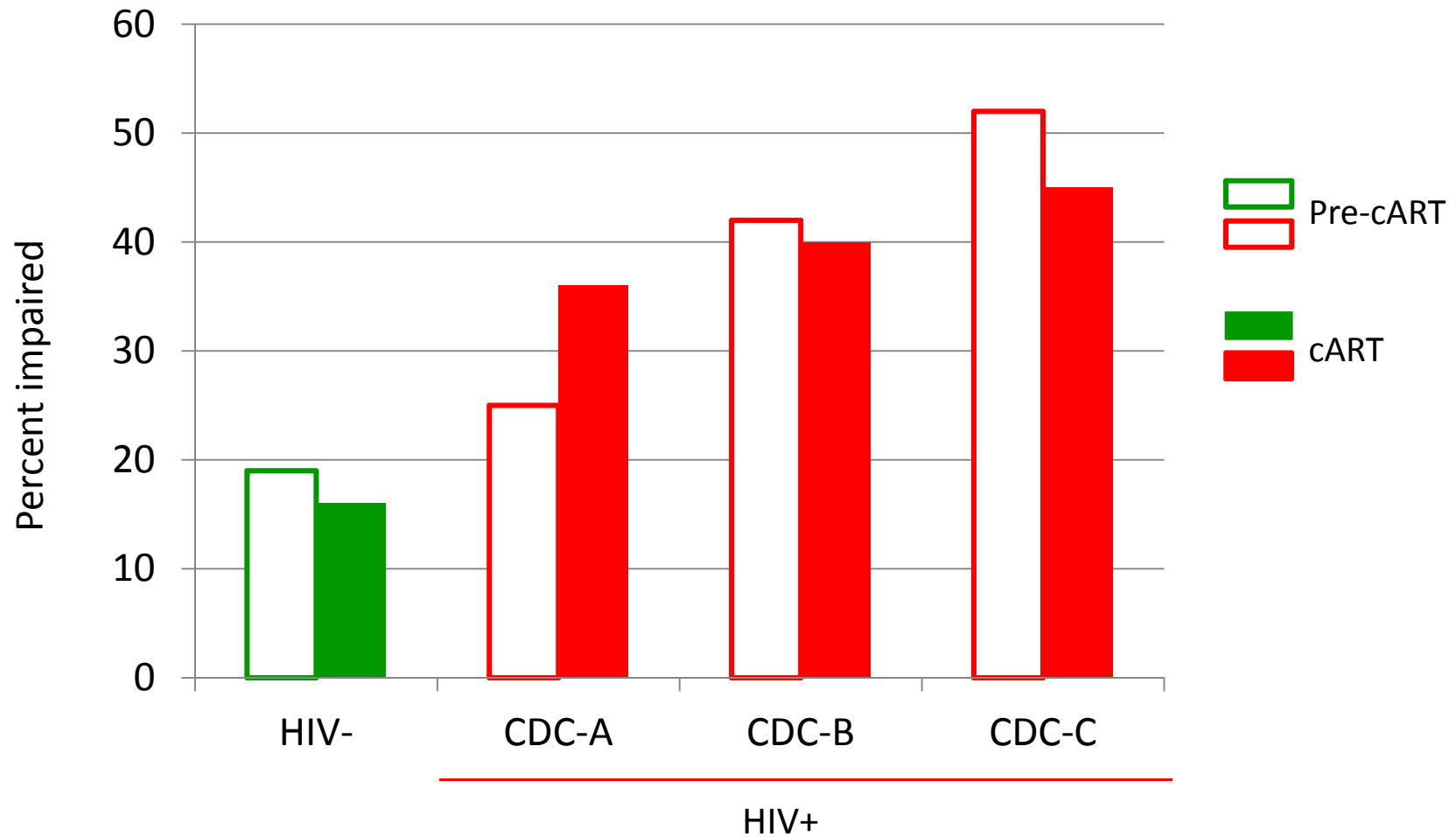


Liver Disease



Renal Disease

Neurocognitive impairment remains highly prevalent despite of cART



Non-AIDS–defining cancer rates higher in HIV+ patients vs general population

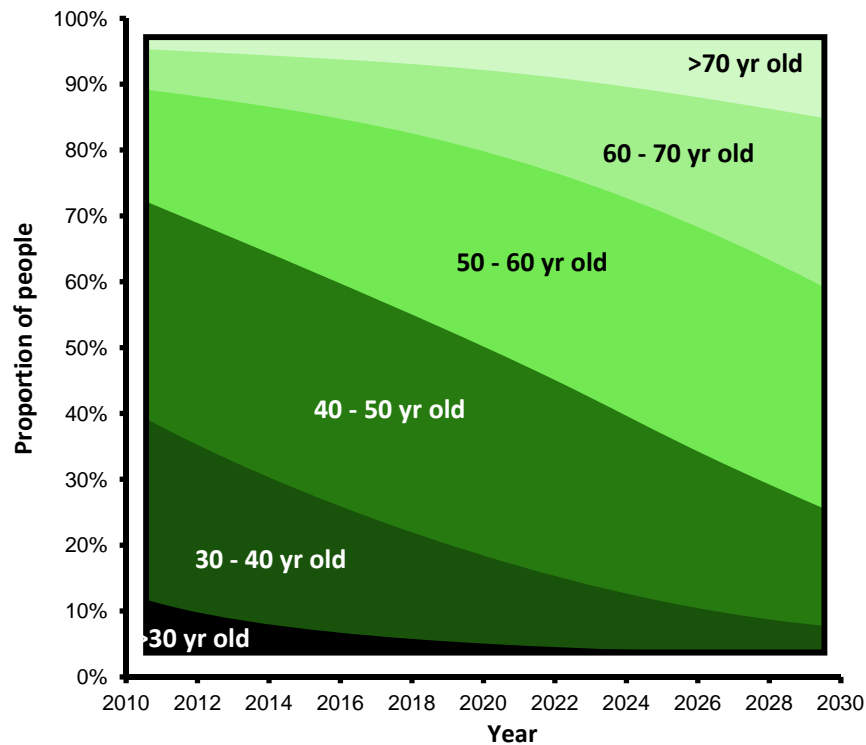
Cancer Type, Observed Rate per 100,000 Person-Years (95% CI)	ASD/HOPS (157,819 Person-Years)	SEER (334,802,121 Person-Years)	SRR* (95% CI)
Anal	51.4 (40.8-63.9)	1.5 (1.4-1.5)	42.9 (34.1-53.3)
Vaginal	33.9 (18.0-57.9)	3.2 (3.2-3.3)	21.0 (11.2-35.9)
Hodgkin's lymphoma	51.4 (40.9-63.9)	3.3 (3.3-3.4)	14.7 (11.6-18.2)
Liver	31.7 (23.5-41.8)	5.3 (5.2-5.4)	7.7 (5.7-10.1)
Lung	88.8 (74.7-104.8)	67.5 (67.2-67.7)	3.3 (2.8-3.9)
Melanoma	24.7 (17.6-33.8)	18.4 (18.3-18.6)	2.6 (1.9-3.6)
Oropharyngeal	33.0 (24.6-43.3)	16.1 (16.0-16.2)	2.6 (1.9-3.4)
Leukemia	15.2 (9.8-22.7)	12.2 (12.1-12.3)	2.5 (1.6-3.8)
Colorectal	47.0 (36.9-59.0)	52.0 (51.7-52.2)	2.3 (1.8-2.9)
Renal	14.0 (8.8-21.1)	13.0 (12.8-13.1)	1.8 (1.1-2.7)
Prostate	32.7 (23.3-44.7)	173.5 (172.9-174.1)	0.6 (0.4-0.8)

ASD, Adult and Adolescent Spectrum of Disease Project; HOPS, HIV Outpatient Study; SEER, Surveillance, Epidemiology, and End Results, 1992–2003;

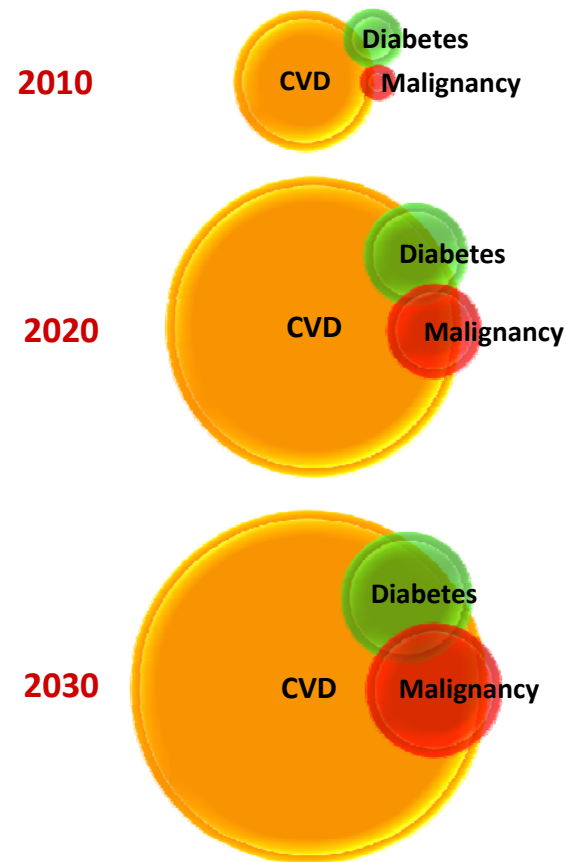
*SRR, standardized rate ratio calculated as ASD/HOPS to SEER populations.

Increased Burden of Non-Communicable Diseases (NCDs) and Polypharmacy

Future Age Distribution of HIV Patients in the Netherlands (ATHENA cohort)



Changes in Relative Number of Patients with Specific NCDs



EACS guidelines

Assessment of HIV-positive persons at initial & subsequent visits

	Assessment	At HIV diagnosis	Prior to starting ART	Follow-up frequency		Assessment	At HIV diagnosis	Prior to starting ART	Follow-up frequency
CO-MORBIDITIES					CO-MORBIDITIES				
Haematology	FBC	+	+	3-12 months	Renal disease	Risk assessment ^(vi)	+	+	Annual
	Haemoglobinopathies	+				eGFR (aMDRD) ^(vii)	+	+	3-12 months
	G6PD	+				Urine dipstick analysis ^(viii)	+	+	Annual
Body composition	Body-mass index	+	+	Annual	Bone disease	Bone profile: calcium, PO ₄ , ALP	+	+	6-12 months
Cardiovascular disease	Risk assessment (Framingham score ⁽ⁱⁱⁱ⁾)	+	+			Risk assessment ^(x) (FRAX ^{®(xi)} in persons > 40 years)	+	+	2 years
	ECG	+	+/-	Annual	Vitamin D	25(OH) vitamin D	+		As indicated
Hypertension	Blood pressure	+	+	Annual	Neurocognitive impairment	Screening questionnaire	+	+	2 years
Lipids	TC, HDL-c, LDL-c, TG ^(iv)	+	+	Annual	Depression	Questionnaire	+	+	1-2 years
Glucose	Serum glucose	+	+	6-12 months	Cancer	Mammography			1-3 years
Pulmonary disease	CXR	+/-		As indicated		Cervical PAP			1-3 years
	Spirometry			As indicated		Anoscopy and PAP (MSM)			1-3 years
Liver disease	Risk assessment ^(v)	+	+	Annual		Ultrasound and alpha-foetoprotein			6 months
	ALT/AST, ALP, Bilirubin	+	+	3-12 months					

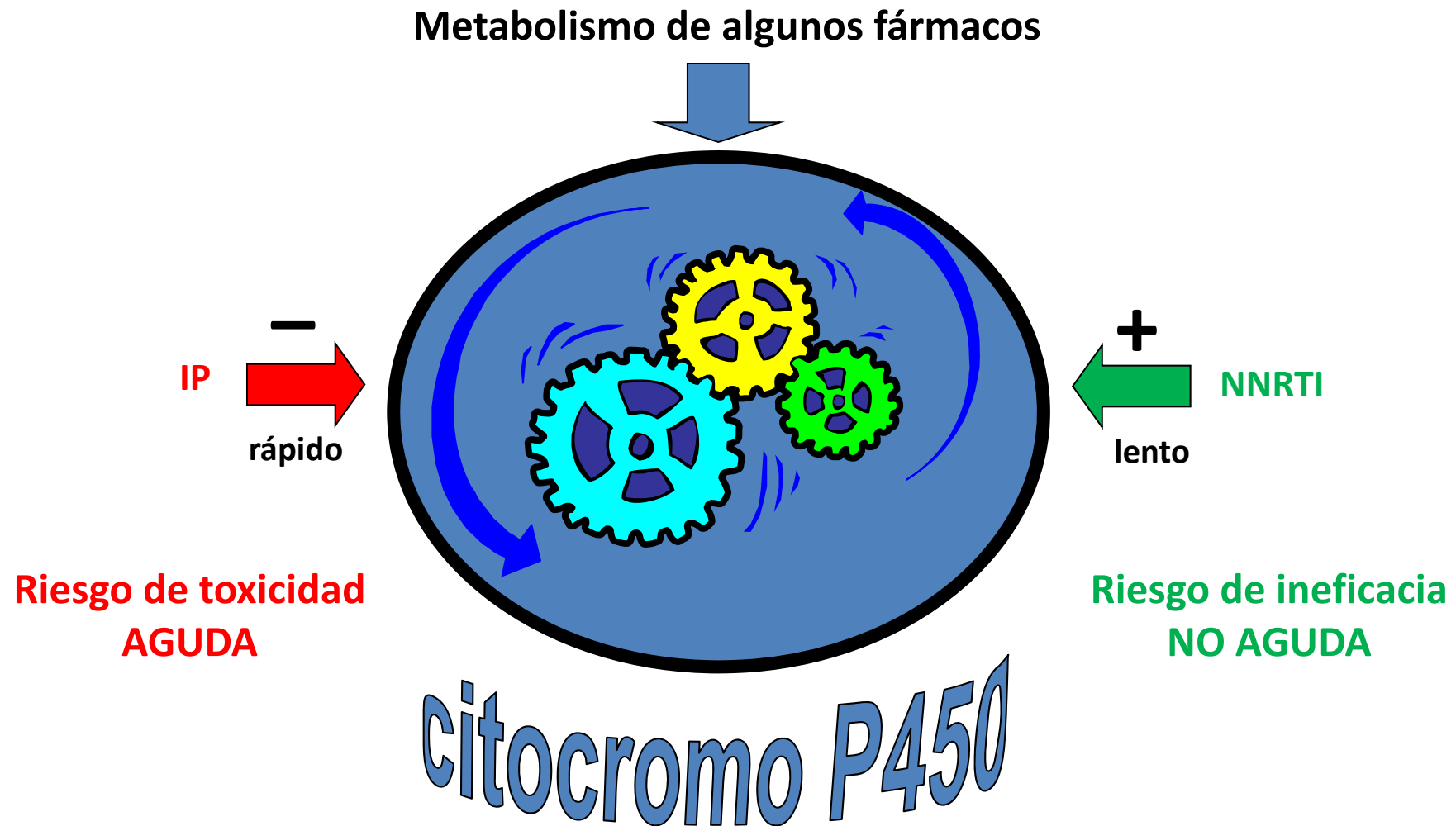
Agenda

- Transmisión del VIH
- ¿Cuándo solicitar la prueba VIH?
- Epidemiología del VIH en nuestro medio
- Situación clínica actual de los pacientes VIH
- **Interacciones de los fármacos antirretrovirales**

Need to avoid drug-drug interactions

non-ARV drugs		ATV/r	DRV/r	LPV/r	EFV	ETV	NVP	RPV	MVC	DTG	EVG/c	RAL	BC	FTC	3TC	TDF	ZDV	
cardiovascular drugs	atorvastatin	↑	↑	↑490%	↓43%	↓37%	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	fluvastatin	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
	pravastatin	↔	↑81%	↔	↓44%	↓	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
	rosuvastatin	↑213%	↑48%	↑107%	↔	↑	↔	↔	↔	↔	↔	↑38%	↔	↔	↔	↔	↔	
	simvastatin	↑	↑	↑	↓68%	↓	↓	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
	amlodipine	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↓	↓	↓	↔	↔	↔	↔	↑	↔	↔	↔	↔	↔	
	diltiazem	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↓69%	↓E	↓	E	E	↔	↔	↑	↔	↔	↔	↔	↔	
	metoprolol	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↔	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔	↔	↔	
	verapamil	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↓	↓E	↓	E	E	↔	↔	↑	↔	↔	↔	↔	↔	
	warfarin	↑ or ↓	↓	↓	↑ or ↓	↑	↑	↑ or ↓	↔	↔	↔	↑ or ↓	↔	↔	↔	↔	↔	↔
CNS drugs	diazepam	↑	↑	↑	↓	↑	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	midazolam (oral)	↑	↑	↑	↓	↓	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	triazolam	↑	↑	↑	↓	↓	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	citalopram	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↓	↓	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	mirtazapine	↑	↑	↑	↓	↓	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	paroxetine	↑↓?	↓39%	↑↓?	↔	↔	↔	↔	↔	↔	↔	↑↓?	↔	↔	↔	↔	↔	↔
	sertraline	↓	↓49%	↓	↓39%	↓	↓	↔	↔	↔	↔	↑	↔	↔	↔	↔	↔	
	bupropion	↓	↓	↓57%	↓55%	↔	↓	↔	↔	↔	↔	↑?	↔	↔	↔	↔	↔	
	pimozide	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↑	↓	↓	↔ ^{iv}	↔	↔	↔	↑	↔	↔	↔	↔	↔	
	carbamazepine	↑D	↑	↑D	27%D36%	D	D	D	D	D	D	D	D	↑	↔	↔	↔	↑ ^{ix}
	lamotrigine	↓39% ⁱⁱ	↓ ⁱⁱ	↓50%	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
	phenytoin	↓D	↓D	↓D	↓D	D	D	↓D	D	D	D	D	D	D	↔	↔	↔	↓
	anti-infectives	clarithromycin	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↓	↓E	↓	E	E	↔	↑E	↔	↔	↔	↔	↔	D
fluconazole		↔	↔	↔	↔	E86%	E100%	E	↔	↔	↑?	↔	↔	↔	↔	↔	E74%	
itraconazole		↑E	↑E	↑E	↓	↓E	↓61%	E	E	↔	↑E	↔	↔	↔	↔	↔	↔	
rifabutin		↑	↑E50%	↑	↓38%	D37%	↑17%	D	*	↔	↑D	↔	↔	↔	↔	↔	↔	
rifampicin		D72%	D	D	D26%	D	D58%	D80%	D	D54%	D	D40%	D	↔	↔	↔	↔	D47%
voriconazole		↓	↓	↓	↓E	↑E	↓E	E	E	↔	↑E	↔	↔	↔	↔	↔	↔	↔
miscellaneous	antacids	D	↔	↔	↔	↔	↔	D	↔	D	D	D	↔	↔	↔	↔	↔	
	PPIs	D	↔	↔	↔	↔	↔	D	↔	↔	↔	E	↔	↔	↔	↔	↔	
	H2 blockers	D	↔	↔	↔	↔	↔	D	↔	↔	↔	E	↔	↔	↔	↔	↔	
	alfuzosin	↑	↑	↑	↓	↓	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	beclometasone inhal.	↑? ^v	↓11%	↑? ^v	↔	↔	↔	↔	↔	↔	↑? ^v	↔	↔	↔	↔	↔	↔	↔
	buprenorphine	↑67%	↑ ^{vi}	↔	↓50%	↓25%	↔	↔	↔	↔	↑35%	↔	↔	↔	↔	↔	↔	↔
	budesonide inhal.	↑	↑	↑	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	ergot derivatives	↑	↑	↑	↑	↑	↓	E	↔	↔	↑	↔	↔	↔	↔	↔	↔	
	ethinylestradiol	↓ ^{vii}	↓	↓	↔ ^{viii}	↔	↓	↔	↔	↔	↓	↔	↔	↔	↔	↔	↔	
	fluticasone inhal.	↑	↑	↑	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	
methadone	↓ ^{ii, iii}	↓16%	↓53%	↓52%	↑6%	↓≈50%	↓16%	↔	↔	↔	↔	↓	↔	↔	↔	↔	E29-43%	
salmeterol inhal.	↑ ⁱⁱⁱ	↑	↑ ⁱⁱⁱ	↔	↔	↔	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	↔	
sildenafil (erec. dys.)	↑	↑	↑	↓	↓37%	↓	↔	↔	↔	↑	↔	↔	↔	↔	↔	↔	↔	
St John's wort	D	D	D	D	D	D	D	D	D	D	D	↔	↔	↔	↔	↔	↔	
varenicline	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	

Riesgo de interacciones con fármacos antirretrovirales: papel del citocromo P450



Remember Corticosteroids (including non-oral!!!)

- Cushing's syndrome and adrenal suppression reported in a patient on ATV/r and **dexamethasone 0.1% eye drops** (1)
- Cases of Cushing's syndrome and adrenal suppression in patients on inhaled **budesonide** & boosted PIs (2-4).
- Numerous cases of Cushing's syndrome with inhaled **fluticasone** and boosted PI

CLINICAL CASE SEMINAR

Iatrogenic Cushing's Syndrome with Osteoporosis and Secondary Adrenal Failure in Human Immunodeficiency Virus-Infected Patients Receiving Inhaled Corticosteroids and Ritonavir-Boosted Protease Inhibitors: Six Cases

Katherine Samaras, Sarah Pett, Andrew Gowers, Marilyn McMurchie, and David A. Cooper

- 1, Molloy A et al AIDS 2011
- 2, Kedem e et al J Asthma 2010
3. Gray D et al S Afr Med J 2010
4. Frankel JK & Packer CD. Ann Pharmacother 2011

Caso: Paciente que desarrolló síndrome de Cushing tras infiltraciones de corticoides

06/JUL/2011

Tratada por un osteopata con infiltración de corticoides por un dolor en columna cervical. **Toma ritonavir.**

Tiene debilidad muscular proximal, edema facial, aumento troncular, cambio del estado de ánimo y candidiasis orofaríngea.

La analítica muestra glucosa en 122 mg/dL, leucocitosis con linfopenia relativa, disminución de CD4 y CD8, carga viral indetectable.

13/DIC/2010

Región	Tejido (%grasa)	2,3		Grasa (g)	Magro (g)	CMO (g)
		Centil	Masa tot. (kg)			
Brazos	33,6	-	-	1.487	2.943	266
Piernas	16,3	-	-	1.753	9.015	662
Tronco	31,7	-	-	7.991	17.206	447
Androide	37,6	-	-	1.462	2.422	37
Ginoide	28,0	-	-	1.727	4.451	159
Total	26,6	-	46,2	11.818	32.552	1.869

6/JUL/2011

Región	Tejido (%grasa)	2,3		Grasa (g)	Magro (g)	CMO (g)
		Centil	Masa tot. (kg)			
Brazos	39,1	-	-	1.538	2.393	266
Piernas	19,9	-	-	2.025	8.151	675
Tronco	37,7	-	-	8.823	14.601	477
Androide	44,9	-	-	1.662	2.036	37
Ginoide	30,3	-	-	1.549	3.557	154
Total	31,6	-	43,4	13.106	28.417	1.880

Caso: Paciente que desarrolló HTA y vasospasmo agudo tras derivado ergotamínico para cefalea

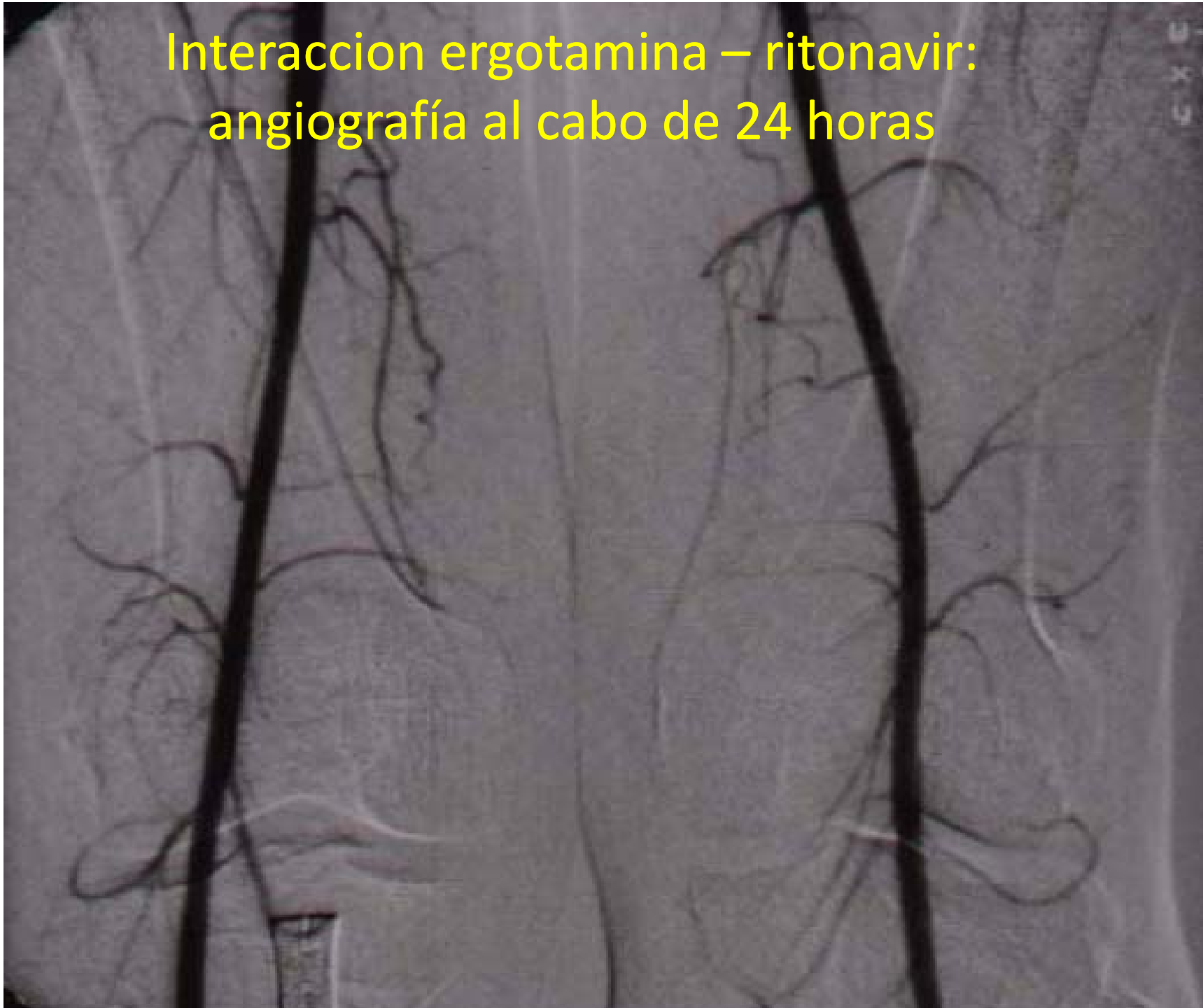


Interacción ergotamina - ritonavir : efecto agudo

Interacción ergotamina – ritonavir:
angiografía del efecto agudo



Interacción ergotamina – ritonavir:
angiografía al cabo de 24 horas



Recordar: Estatinas!!!

De: Farmacia RSB [<mailto:farmacia.RSB@catsalut.cat>]

Enviado el: viernes, 25 de enero de 2013 12:12

Para: PIQUE, JOSEP MARIA (DIR.GENERAL); BRUGADA, JOSEP (DIR. MED.); CASABONA, RAMON (FARMACIA); RIBAS, JOSEP (FARMACIA); MARTIN, MAITE (FARMACIA)

Asunto: Associacions IP-estatina contraindicades i a evitar

Benvolguts/des,

Els IP són Medicaments Hospitalaris de Dispensació Ambulatoria (MHDA), mentre que les estatinas poden ser prescrites a nivell hospitalari i/o a l'atenció primària per a ser dispensades en oficina de farmàcia. En aquests casos, és fonamental augmentar la coordinació i/o comunicació entre els professionals de les diferents línies assistencials que presten l'atenció sanitària a aquests pacients. Per aquest motiu, hem realitzat una anàlisi dels pacients als que s'ha facturat un IP i una estatina a la Regió Sanitària Barcelona (RSB) durant el període juny-setembre 2012.

En un fitxer adjunt us fem arribar la informació dels pacients de VIH controlats al vostre hospital que es trobarien en situació de risc per tal que, un cop validada la informació, es facin les actuacions pertinents. En cas que la prescripció provingui de l'atenció primària, també fora convenient establir comunicació i intercanviar informació.

Restem a la vostra disposició per qualsevol consulta addicional.

Cordialment,

Corinne Zara Yahni

Directora

Direcció de Farmàcia

Regió Sanitària Barcelona/Consorti Sanitari de Barcelona

Servei Català de la Salut (CatSalut)

Dyslipidaemia: management

Principles:

Higher LDL-c levels increase risk of CVD and reduction thereof reduces this risk (see table below for drugs used on this indication); the reverse is true for HDL-c. The CVD risk implications from higher than normal TG levels are less clear, as TG independently does not predict well the risk of CVD and since the clinical benefit of treating moderate hypertriglyceridaemia is uncertain; very high

TG (> 10 mmol/L or > 900 mg/dL) may increase risk of pancreatitis although direct evidence is lacking. Diet (more fish), exercise, maintaining normal body weight, reduce alcohol intake and stopping smoking tends to improve dyslipidaemia; if not effective, consider change of ART and then consider lipid-lowering medication in high-risk patients (see [p. 48](#)).

Drugs used to lower LDL-c

DRUG CLASS	DRUG	DOSE	SIDE EFFECTS	ADVISE ON USE OF STATIN TOGETHER WITH ART	
				use with PI/r	use with NNRTI
Statin ⁽ⁱ⁾	Atorvastatin ⁽ⁱⁱ⁾	10-80 mg qd	Gastrointestinal symptoms, headache, insomnia, rhabdomyolysis (rare) and toxic hepatitis	Start with low dose ^(v) (max: 40 mg)	Consider higher dose ^(vi)
	Fluvastatin ⁽ⁱⁱⁱ⁾	20-80 mg qd		Consider higher dose ^(vi)	Consider higher dose ^(vi)
	Pravastatin ⁽ⁱⁱⁱ⁾	20-80 mg qd		Consider higher dose ^(vi,vii)	Consider higher dose ^(vi)
	Rosuvastatin ⁽ⁱⁱ⁾	5-40 mg qd		Start with low dose ^(v) (max: 20 mg)	Start with low dose ^(v)
	Simvastatin ⁽ⁱⁱ⁾	10-40 mg qd		Contraindicated	Consider higher dose ^(vi)
Cholesterol uptake ↓ ⁽ⁱ⁾	Ezetimibe ^(iv)	10 mg qd	Gastrointestinal symptoms	No known drug-drug interactions with ART	

LATEST ARTICLES

- Drug Interactions** - Dolutegravir and methadone
- Drug Interactions** - Elvitegravir/cobicistat and methadone.
- Drug Interactions** - Dolutegravir and prednisone.
- Case Report** - Atazanavir/ritonavir and charcoal.
- Review** - ART and cardiovascular disease.
- Drug Interactions** - Tenofovir and diclofenac.

[Click here for previous news items](#)

SITE UPDATES

Interactions with Dolutegravir Dolutegravir (Tivicay®), an integrase inhibitor, was licensed in America a few months ago and i...
[>>more](#)

New Presentation - Interactions with Stribild
A new presentation on Drug-Drug Interactions with Stribild has been adde...
[>>more](#)

New cytotoxics added as comedications
Ten new cytotoxic drugs have been added to the interaction charts - dasatinib, erlotinib, evero...
[>>more](#)

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Please add people@hiv-druginteractions.org and

DRUG INTERACTION CHARTS



Now Includes Dolutegravir
Access our comprehensive, user friendly, free, drug interactions charts

[CLICK HERE](#)

Providing clinically useful, reliable, up-to-date evidence-based information

[To view low bandwidth version click here](#)

INTERACTIONS ON MOBILE DEVICES

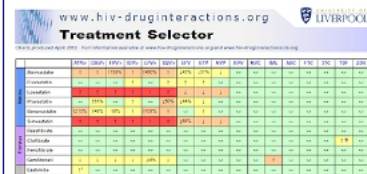
HIV iCharts - we want your opinions

Recent changes to the Apple operating system have caused issues with the update feature of the HIV iCharts app. We are taking this opportunity to investigate alternative options for accessing our drug interaction information on mobile devices and would be grateful if you could take a few minutes to answer a few short questions and to give us any comments.

[Click here to take the survey](#)

TREATMENT SELECTOR TABLES

Treatment Selector Tables - now with dolutegravir



We have produced a series of printable tables showing interactions between key antiretrovirals and drugs used to treat a range of common comorbidities.

The tables can be accessed from the Printable Chart & Treatment Selector sub menu on the Interaction Charts menu.

INTERACTION CHARTS FOR YOUR SMART PHONE AND TABLET

HIV iChart - an interaction app for mobile devices

iOS7 - We have recently become aware that the update function on the app may not work properly with iOS7 on some devices. We are currently working to determine the nature and extent of the problem and to rectify this.



Free for **Apple** and **Android** devices.
Now optimised for iPads



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We are pleased to announce Editorial Sponsorship from BHIVA, EACS and the International Congress on Drug Therapy in HIV (Glasgow).



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www.hep-druginteractions.org

A reliable guide to drug-drug interactions in the treatment of hepatitis.



Portal providing emerging data, clinical updates and meeting reviews.



Website of the British Society of

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	Skin	Digestive	Liver	CV	Musculo-skeletal	Genito-urinary	Nervous	Body fat	Metabolic	Other
NRTI										
ABC	Rash*	Nausea* Diarrhoea*		IHD						*Systemic hypersensitivity syndrome (HLA B*5701 dependent)
3TC										
FTC										
TDF					↓ BMD, Osteomalacia ↑ Fractures risk	↓ eGFR, Fanconi syndrome				
NNRTI										
EFV	Rash		Hepatitis				Dizziness, Sleep disturbances, Depression		Dyslipidaemia, Gynaecomastia	↓ plasma 25(OH) vitamin D, Teratogenesis
ETV	Rash									
NVP	Rash*		Hepatitis*							*Systemic hypersensitivity (CD4- and gender-dependent)
RPV	Rash		Hepatitis			↓ eGFR	Depression, Sleep disturbances, headache			
PI										
ATV		Nausea and Diarrhoea ⁽ⁱⁱ⁾	Jaundice Cholelithiasis			↓ eGFR, Nephrolithiasis			Dyslipidaemia	
DRV	Rash					Nephrolithiasis			Dyslipidaemia	
ITI										
RAL		Nausea			Myopathy, Rhabdomyolysis		Mood changes			
DTG	Rash		Nausea			↓ eGFR ⁽ⁱⁱⁱ⁾	Headache			Systemic hypersensitivity syndrome (<1%)
EVG/COBI		Nausea, Diarrhoea	Hyperbilirubinemia			↓ eGFR ⁽ⁱⁱⁱ⁾	Headache			

Agenda

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