EURÓPSKA ÚNIA
Európsky fond
regionálneho rozvoja

Podporujeme výskumné aktivity na Slovensku/Projekt je spolufinancovaný zo zdrojov EÚ

HIV VÝZVA PRE BIOMEDICÍNSKE A SPOLOČENSKÉ VEDY

PAVOL JARČUŠKA, KLINIKA INFEKTOLÓGIE A CESTOVNEJ MEDICÍNY LF UPJŠ A UNLP, KOŠICE

PROF. MUDR. PAVOL JARČUŠKA, PHD.

- Prorektor UPJŠ pre rozvoj a EU problematiku
- Prezident Slovenskej spoločnosti infektológov SLS
- Predseda Ústrednej ATB komisie MZ SR
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- Konzultant ECDC Stockholm – ATB, AIDS
- Vedúci AIDS Centra UNLP v Košiciach

neoplastic mature T-cells ( ). The viral rescue and transmission of HTLV into permissive cells followed a well established procedure which worked out in the system of avian sarcoma virus transformed mammalian cells ( ). The cocultivation procedure using cord blood T-cells from newborns as recipient cells for HTLV enabled preferential isolation of HTLV with immortalizing (transforming) capability ( ). HTLV variants which possess "weak" or lack the immortalizing properties for normal T-cells for peripheral and exhibit mainly cytopathic effect on them can only be detected transiently using cells as target in cocultivation or cell-free transmission experiments. This was our main obstacle for frequent isolation and particularly for detailed biological, immunological and nucleic acid characterization of cytopathic variants of HTLV. To overcome these obstacles, we performed an extensive survey for a cell population which would be highly susceptible to and permissive for cytopathic variants of HTLV and preserve its capacity for permanent growth after infection with the virus. We report here the establishment and characterization of an immortalized T-cell population which is susceptible to and permissive for HTLV cytopathic variants and can be used for their rescue and continuous production.

Several in vitro established permanent cell lines originated from human malignancies were assayed for susceptibility to infection with cytopathic HTLV but as prototype virus (strain BRU from Montagnier) has been used in the first series of experiments. Two cell lines with characteristics of mature T-cells showed susceptibility to infection as determined by reverse transcriptase (RT) assays.

REPORTS

Isolation and transmission of human retrovirus (human t-cell leukemia virus)

M Popovic, PS Sarin, M Robert-Gurroff, VS Kalyanaraman, D Mann, J Minowada, RC Gallo

+ See all authors and affiliations

Science 18 Feb 1983:
Vol. 219, Issue 4586, pp. 856-859
DOI: 10.1126/science.6600519

MIKULÁŠ (MIKE) POPOVIČ

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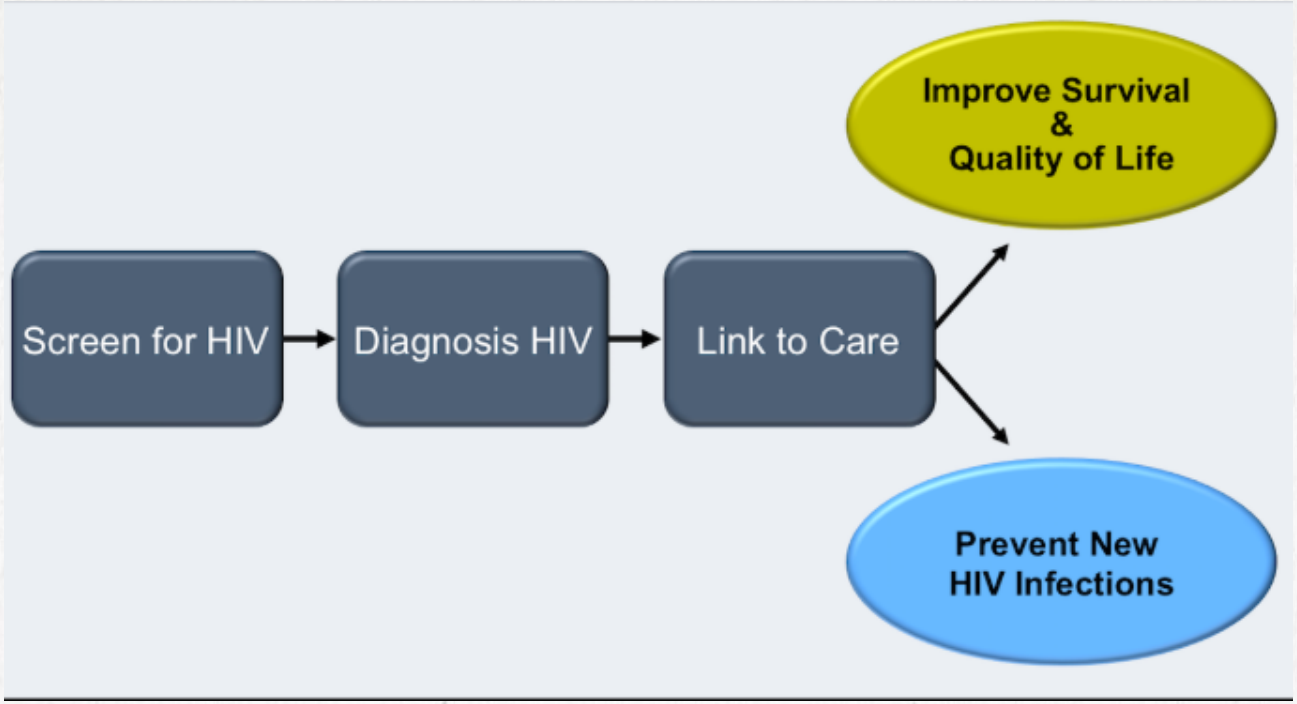
Science 20 May 1983:
Vol. 220, Issue 4599, pp. 865-867
DOI: 10.1126/science.6601823

Dr. Mikulas Popovic, co-author of a study that established the cause of AIDS and the focus of a widely publicized Federal investigation, was declared not guilty of misconduct charges today by an appeals board.

A review board of the Department of Health and Human Services reversed a ruling by the department's Office of Research Integrity that had found Dr. Popovic guilty of misconduct. The review board said the agency had failed to prove its case.


Improve Survival
&
Quality of Life
Screen for HIV
Diagnosis HIV
Link to Care
Prevent New
HIV Infections

HISTÓRIA HIV

1981 - neočakávané prípady pneumocystovej pneumónie a Kaposiho sarkómu u mladých homosexuálov

1983 - izolácia vírusu (HIV) z lymfatického tkaniva - Montagnier

1985 – potvrdenie patogenicity vírusu HIV – Gallo, Popovič

1985 - zavedenie testov zisťujúcich protilátky anti-HIV do praxe

1987 - schválenie použitia prvého lieku na AIDS - zidovudínu

1993 - nová definícia CDC pre AIDS podľa počtu CD4 buniek

1996 - WHO vyhlásilo Globálny program proti AIDS

1996 - zavedenie inhibítorov proteázy do liečby, liečba trojkombináciou sa stala štandardným postupom - Ho

2004 – vyhlásená iniciatíva 3x5

2008 – nové skupiny liečiv

2015 – štúdia START, rozvinuutá iniciatíva 90-90-90

AKÁ JE ŠANCA PRENOSU INFEKCIE PRI NÁHODNOM PORANENÍ?

• HIV pozitívny bez liečby / neznámy	• 1:300, 0,3%
• HIV pozitívny s efektívnou liečbou (<400/ul)	• 1: 200 000 a menej, 0,0005%
• Pacient s hepatitídou C	• 1:30 – 3%
• Pacient s hepatitídou B	• 1:3 – 30%

VÝSKYT RIZIKOVÝCH INFEKCIÍ V SR

- HIV maximálne 1000 pac.
- Hepatitída B 1,5%, cca 75 000 pac.
- Hepatitída C 0,67% cca 35 000 pac.

HIV TREATMENT BULLETIN

No HIV transmissions with undetectable viral load: interim PARTNER study results show need for longer follow-up

24 March 2014. Related: Conference reports, Transmission and prevention, CROI 21 (Retrovirus) 2014.

Simon Collins, HIV i-Base

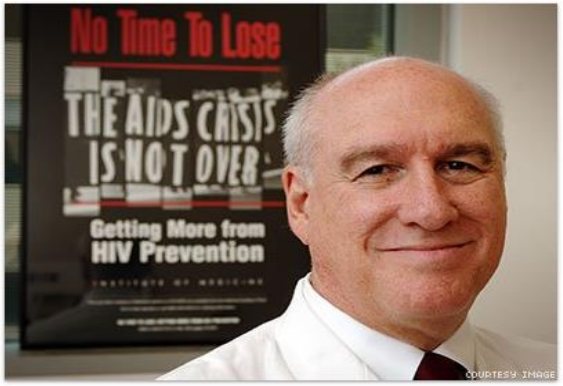
The PARTNER study is an international observational study that estimates the risk of HIV transmission within HIV serodifferent couples who do not use condoms, when the HIV positive person is on ART and has an undetectable viral load.

This is not a question of merely academic interest – it is central to defining the safety of programmes that already emphasise the impact of treatment as prevention. It is also essential for people making their own decisions about levels of risk.

Results presented at CROI 2014, by Alison Rodger from University College London, from a planned interim analysis, reported that no linked transmissions have so far occurred after almost 900 couple years of follow-up. These results come from 586 heterosexual and 308 gay male couples. [1]

TREATMENT ►

STUDY: Zero HIV Transmissions When Undetectable on Treatment



New research shows probability of transmission is zero while on antiretroviral treatment.

By Katie Peoples

AUGUST 18 2015 12:14 PM EDT

A groundbreaking study on antiretroviral treatment showed that the drugs can disable HIV and stop sexual transmission. The randomized study of 1,700 couples was conducted by UNC-Chapel Hill and confirmed a 2011 study that stated ART could prevent transmission of HIV if it is taken reliably. The medications suppress HIV and can render it virtually harmless, unable to transmit to a sexual partner.

HIV-positive individuals without additional sexually transmitted diseases (STD) and on effective anti-retroviral therapy are sexually non-infectious

Pietro Vernazza, Bernard Hirschel, Enos Bernasconi, Markus Flepp

The Swiss National AIDS Commission, following a proposal of the special commission of the Federal Office of Public Health on HIV/Aids Clinical and Treatment, after a review of the scientific data and after an extensive discussion, resolves that: An HIV-infected individual without additional STD and on an anti-retroviral therapy (ART) with completely suppressed viremia (in the following: "effective ART") is sexually non-infectious, i.e. he/her cannot pass on the HI-Virus through *sexual contact* as long as the following conditions are fulfilled:

- The HIV-infected individual complies with the anti-retroviral therapy (ART), the effects of which must be evaluated regularly by the treating physician;
- The viral load (VL) has been non-detectable since at least six months (i.e. viremia is suppressed);
- There are no additional sexually transmitted diseases (STD) present.

Introduction

One of the objectives of the Swiss National AIDS Commission (EKAF) is to publish new insights on the infectiousness of HIV-positive people on optimally effective therapy. The EKAF wants to alleviate fears of people living with or without HIV and thus wants to allow part of the 17'000 people living with HIV in Switzerland to have as much as possible a "normal" sexual life.

Scientific data and evidence

In the following the term "effective ART" is defined as meaning stable HIV-treatment with fully

POZOR na sex: Richard má HIV, vědomě ho šíří a tohle vzkazuje!

Richard šíří HIV a vyhýbvbá se vězení. Může být kdekoliv.

Témata: Richard, Bratislava, sex, AIDS, HIV pozitivní, zahraničí

Mladík vědomě šíří HIV a má si za to odpykat 7 let v base. Jenže do vězení nenastoupil a policie ho nemůže najít.

Richard se roky živil prostitucí, partnery počítal na stovky. Že je nakažený virem HIV, ví od svých devatenácti let. Soud ho za šíření smrtelné nemoci poslal za mříže na sedm let a trest měl nastoupit už před dvěma týdny v bratislavském vězení.

Mladíka, ktorý si má na Slovensku odpykať 7-ročný trest za šírenie HIV, Švajčiari definitívne nevydajú

13. 3. 2018

Je to definitívne! Mladíka, ktorý si má odpykať sedemročný trest za to, že vedome šíril HIV, švajčiarske justičné orgány Slovensku nevydajú! **Richard R. pre nich vraj nie je postihnuteľný, lebo sa nepreukázalo, že by niekoho smrteľným vírusom nakazil.** Mladík sa pred slovenskou spravodlivosťou skrýva už tretí rok a nepomohol ani zatykač.

Richard R. má stráviť podľa právoplatného rozsudku 7 rokov za mrežami. Senát ho tam poslal za to, že ohrozoval tínedžerku vírusom ľudskej imunodeficiencie - teda vedome šíril HIV. Podľa vlastných slov sa roky živil prostitúciou. Sex mal s viacerými ženami aj mužmi.

Do väzenia nenastúpil a utiekol do Švajčiarska, odkiaľ sa aktívne zapájal do diskusií na sociálnej sieti o svojom prípade. Na základe zatykača ho tam dvakrát zadržali, ale aj prepustili. Prečo? V skratke, podľa nich šírenie HIV nie je trestné. Teraz prišla definitíva. Richarda na Slovensko nevydajú.

"21. februára 2018 nám bol doručený preklad odpovede Spolkového ministerstva spravodlivosti a polície v zmysle ktorej bola naša žiadosť o vydanie odsúdeného občana Slovenskej republiky zamietnutá, a to z dôvodu nesplnenej podmienky obojstrannej trestnosti," povedal nám Peter Bubla, hovorca ministerstva spravodlivosti.

Odborníčka na trestné právo pripúšťa, že v krajine mohli skúmať aj jeho zdravotný stav, či naozaj niekoho sexuálnym stykom ohrozil či ohrozuje. U jeho vtedajšej mladistvej partnerky sa vírus nepotvrdil.

Richard si teda naďalej môže užívať slobodu, definitívne nám ho nevydajú. Podľa hovorcu ministerstva spravodlivosti by sa situácia mohla zmeniť, ak by na neho vydali iný zatykač pre inú trestnú vec. A vtedy by Švajčiari opäť skúmali, či je to aj u nich porušenie zákona.

Převzato TVNOVINY.SK (Markíza 25. 2. 2018)

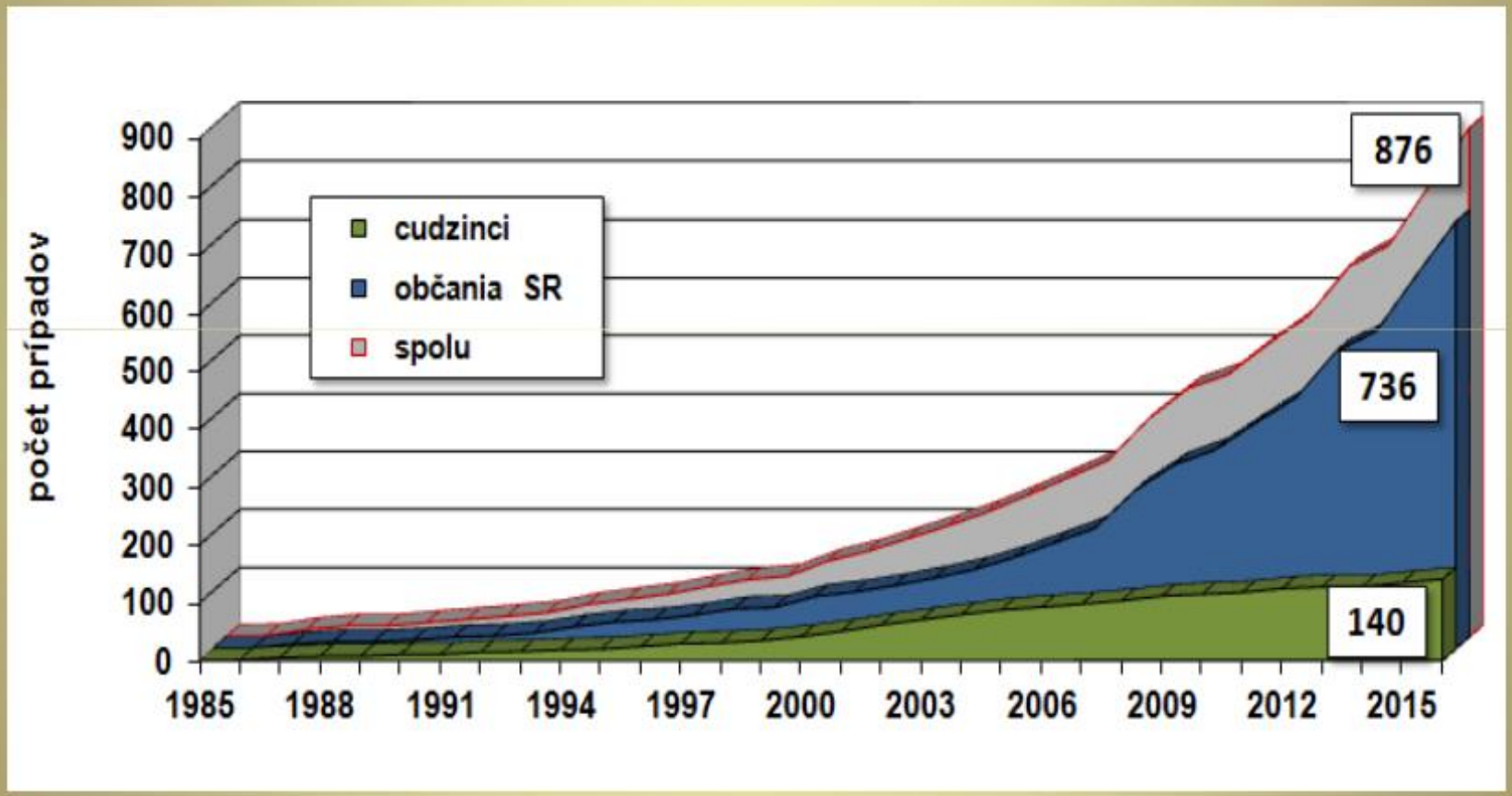
VÝSKYT HIV VO SVETE

5million
new HIV
infections

55 million
people living
with
HIV/AIDS

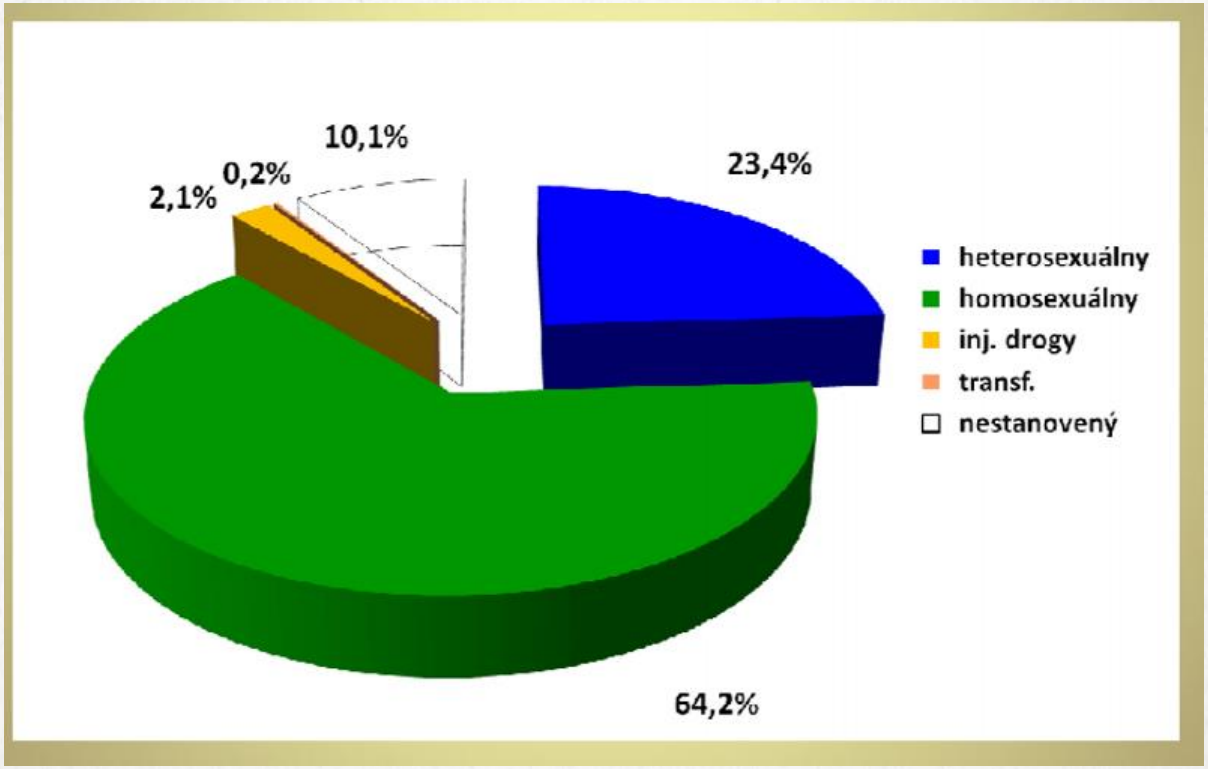
3 million
AIDS related
Deaths

Kumulatívny počet prípadov HIV u občanov SR a cudzincov k 30.09.2016

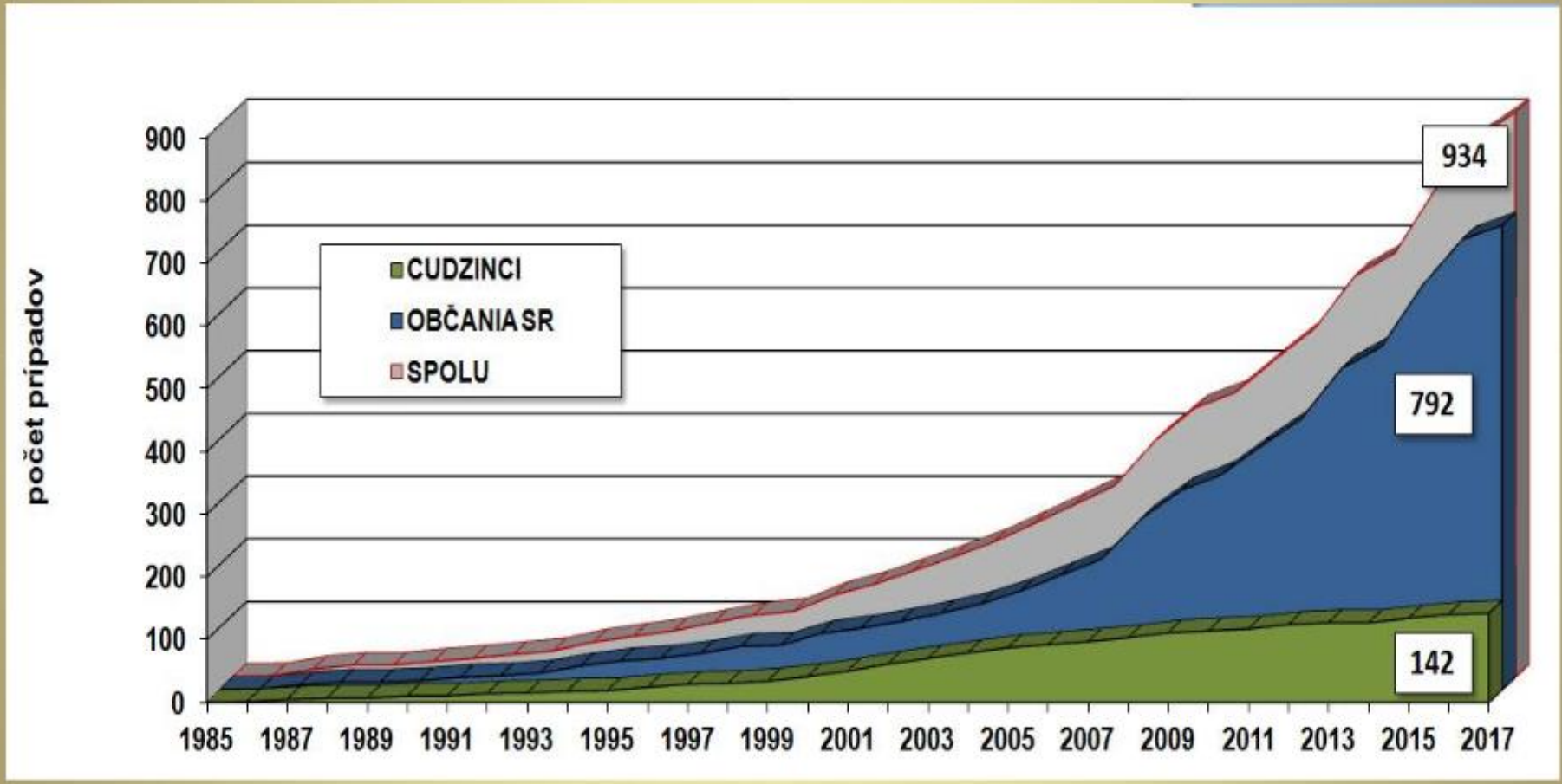


REGIONÁLNY ÚRAD
VEREJNÉHO ZDRAVOTNÍCTVA
BRATISLAVA hl.m.
so sídlom v Bratislave

ROZDELENIE PACIENTOV PODĽA SPÔSOBU PRENOSU HIV INFEKCIE

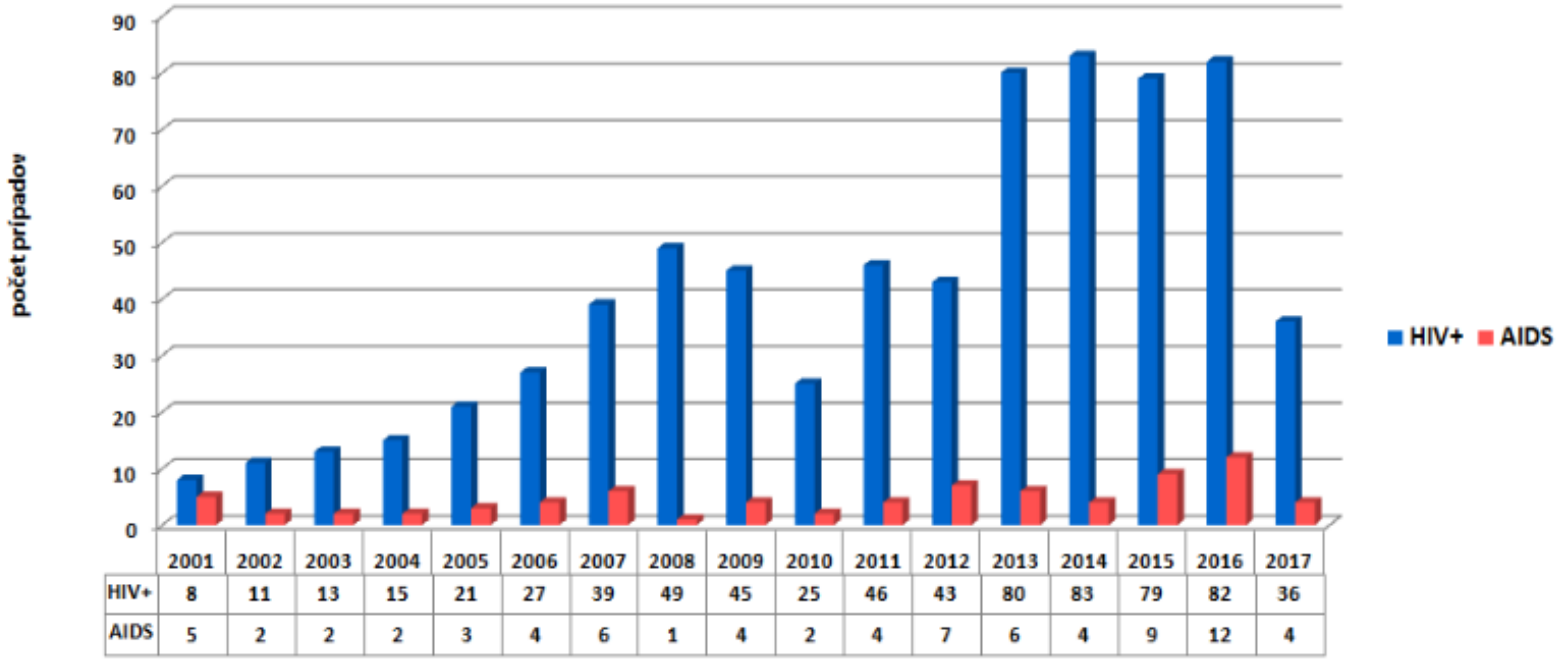


Kumulatívny počet prípadov HIV u občanov SR a cudzincov k 30.06.2017



Výskyt prípadov HIV a AIDS od roku 2001 do 30.06.2017

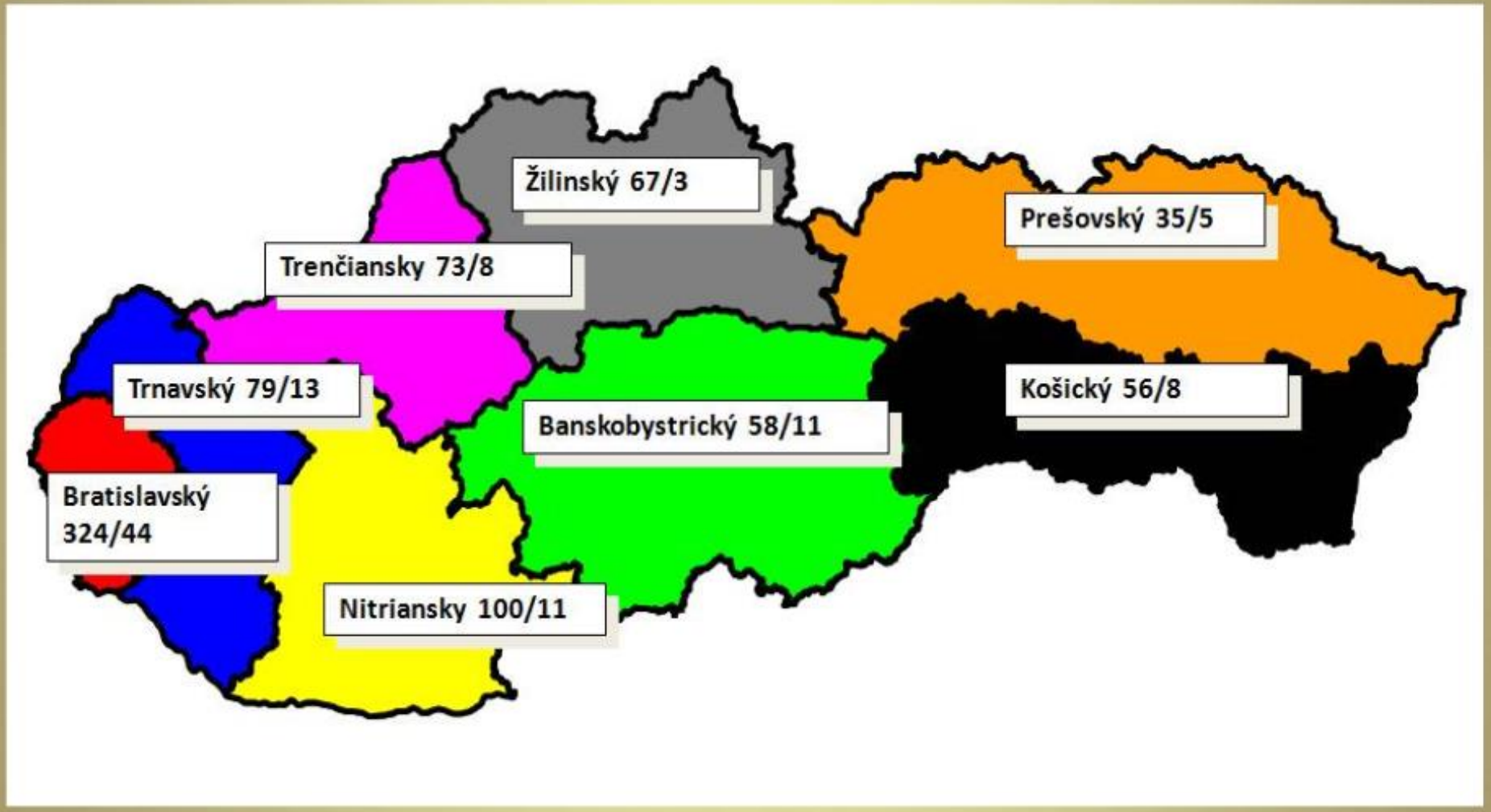
(len občania SR a cudzinci s trvalým pobytom)



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
HIV+	8	11	13	15	21	27	39	49	45	25	46	43	80	83	79	82	36
AIDS	5	2	2	2	3	4	6	1	4	2	4	7	6	4	9	12	4

Kumulatívny počet prípadov HIV/AIDS v krajoch SR k 30.06.2017

(len občania SR a cudzinci s trvalým pobytom)

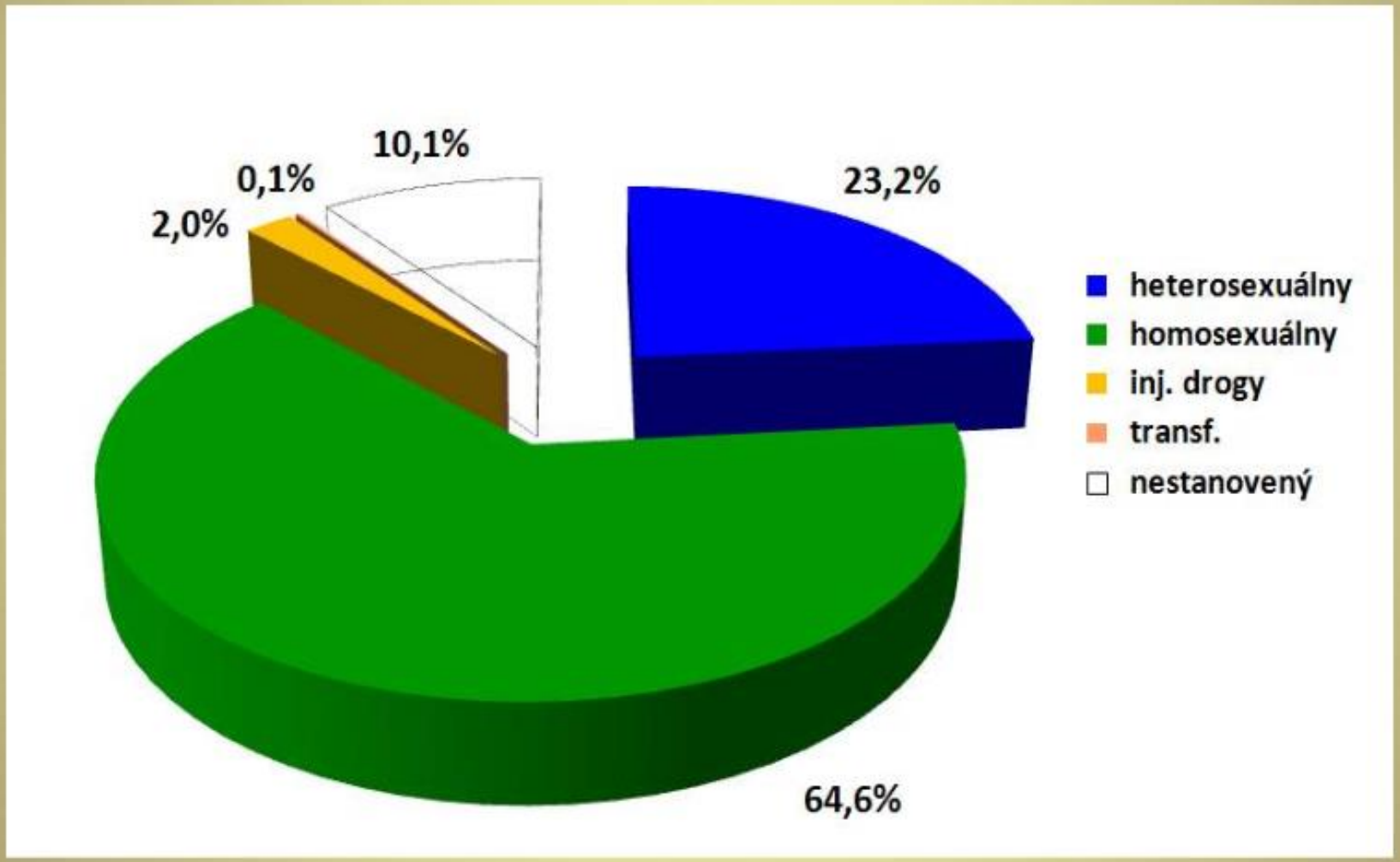


Prípady HIV infekcie registrované v jednotlivých krajoch od roku 2007 do 30.06.2017

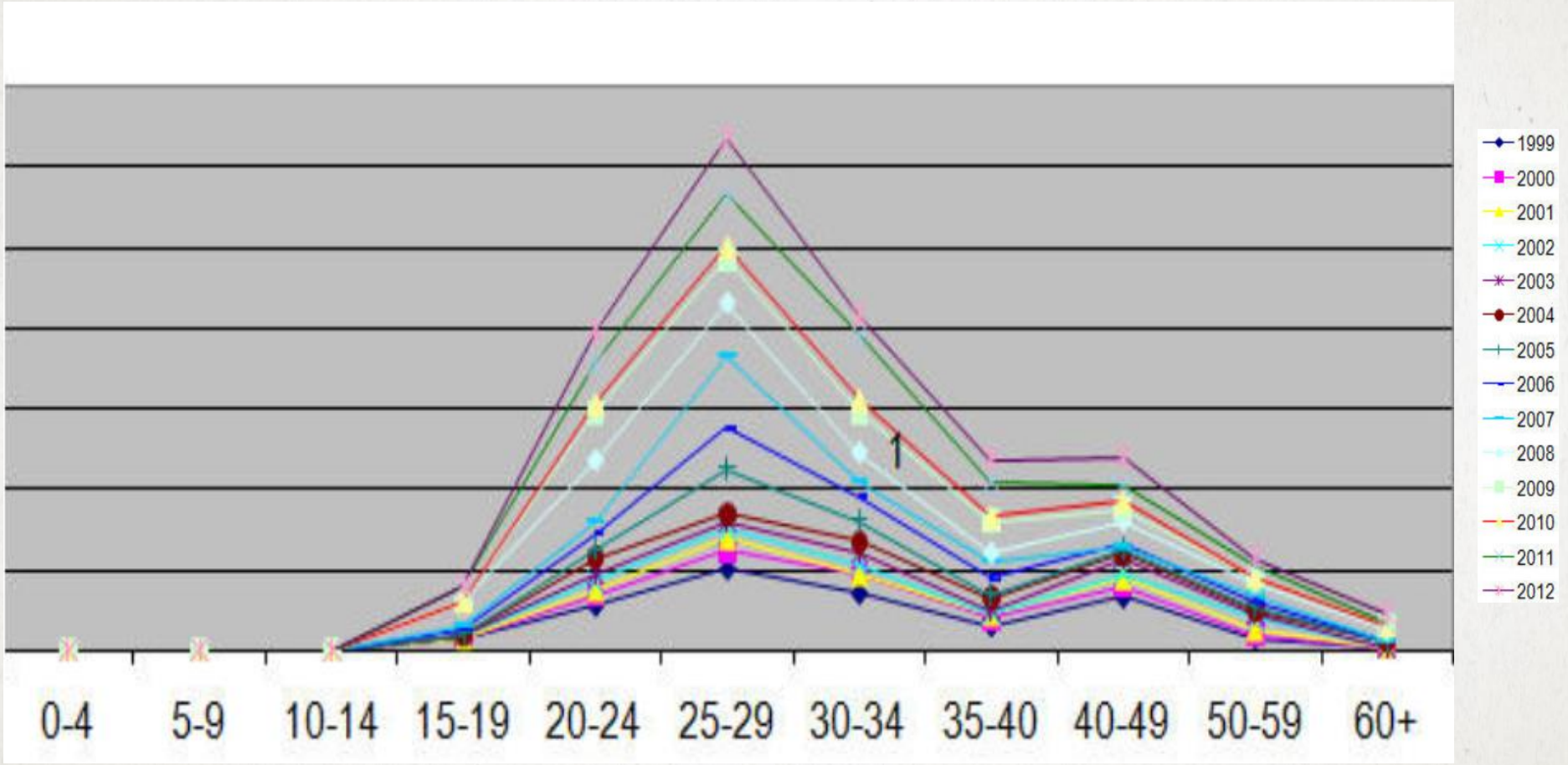
(len občania SR a cudzinci s trvalým pobytom)

Kraj	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Banskobystrický	3	1	2	6	2	4	4	5	5	6
Bratislavský	23	17	11	17	16	37	30	30	23	12
Košický	2	5	2	1	2	4	4	2	3	2
Nitriansky	6	3	2	9	6	13	11	13	18	5
Prešovský	0	4	0	2	1	5	7	5	3	1
Trenčiansky	3	7	2	2	7	5	7	9	9	2
Trnavský	5	4	4	4	4	6	13	11	12	3
Žilinský	7	4	2	5	5	6	7	4	9	5
Spolu SR	49	45	25	46	43	80	83	79	82	36

Rozdelenie prípadov HIV infekcie podľa spôsobu prenosu
Kumulatívne údaje od roku 1985 do 30.06.2017
(len občania SR a cudzinci s trvalým pobytom)

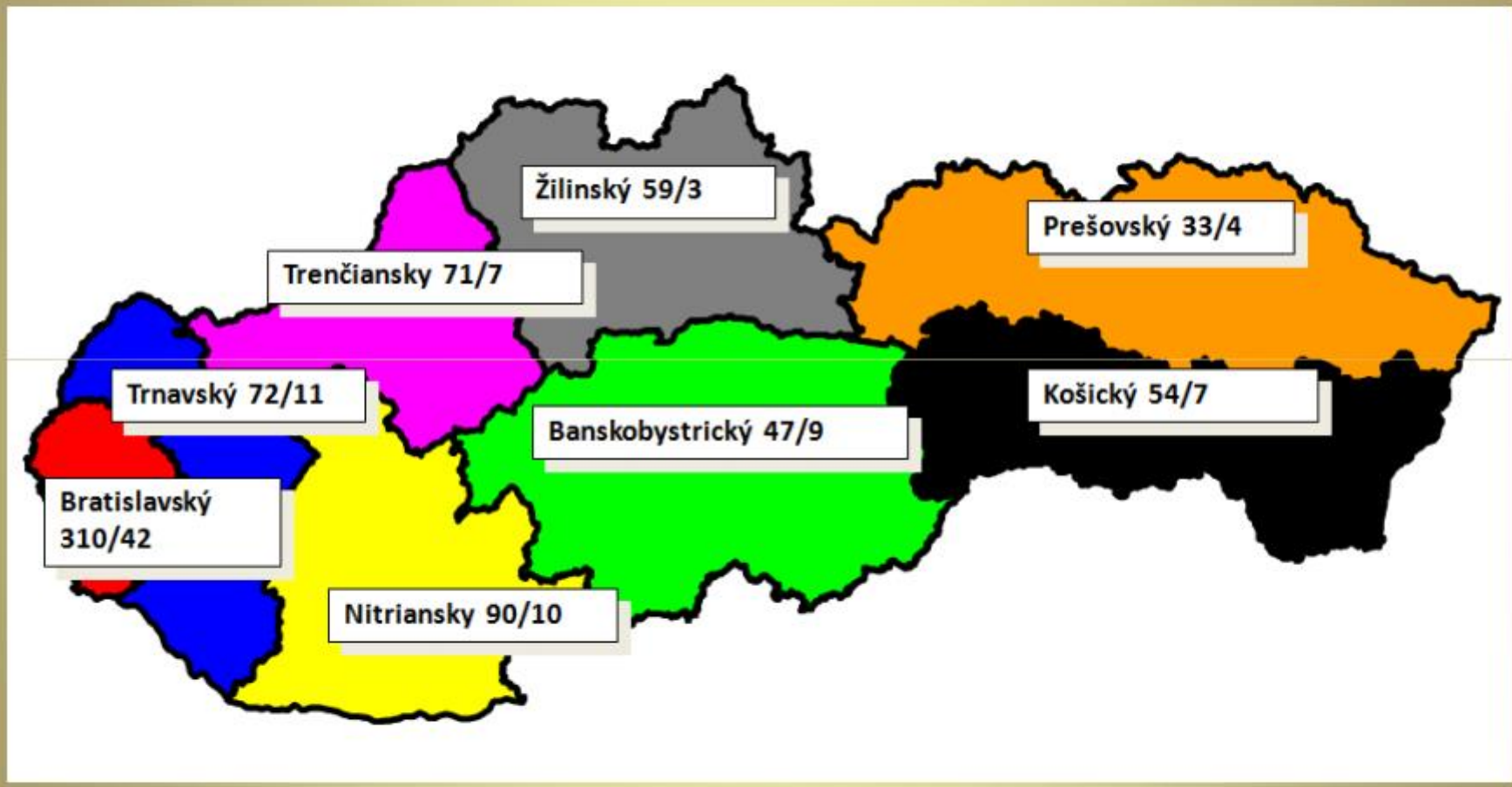


VÝSKYT HIV PODĽA VEKU (SR)



Kumulatívny počet prípadov HIV/AIDS v krajoch SR k 30.09.2016

(len občania SR a cudzinci s trvalým pobytom)



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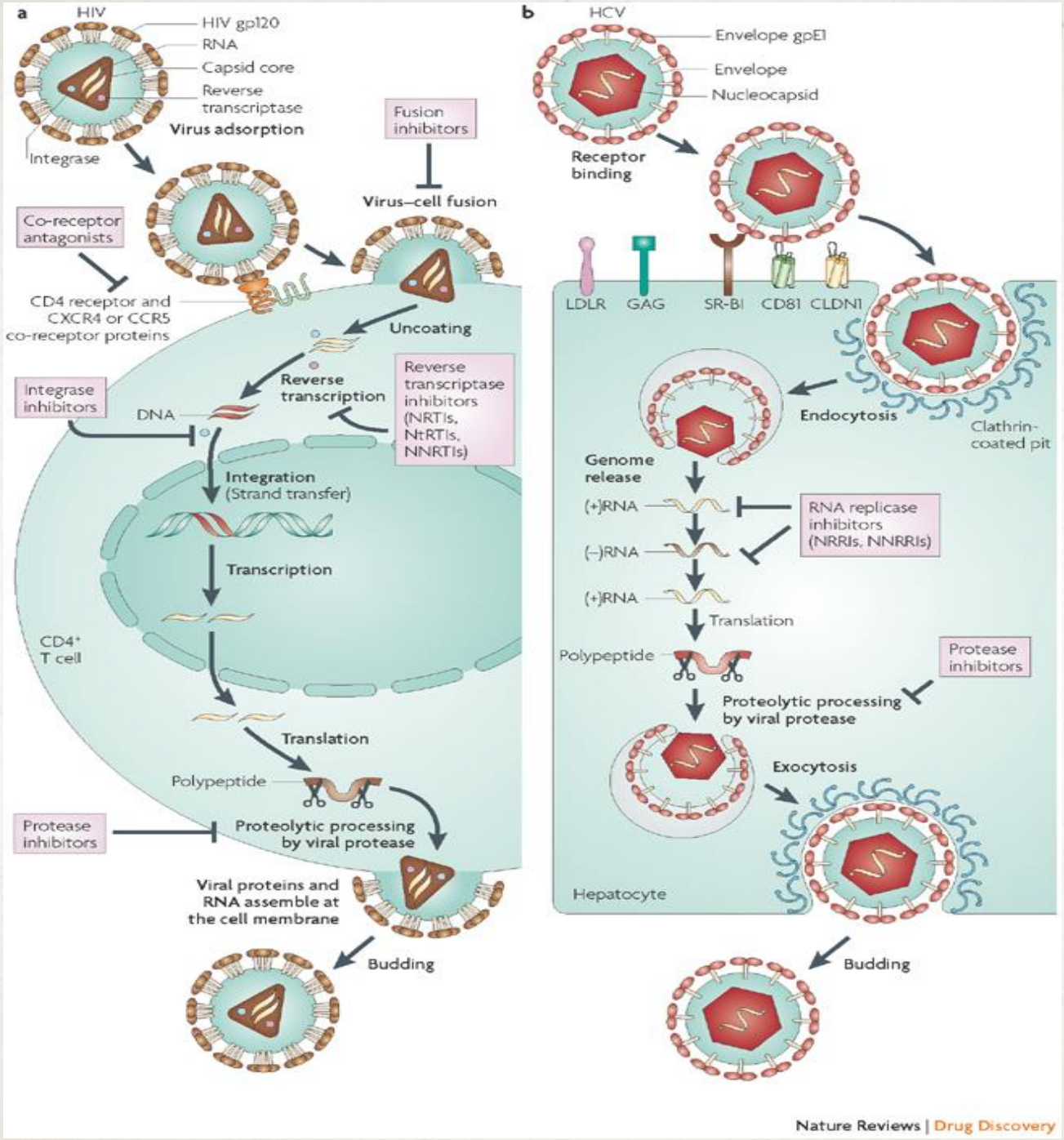
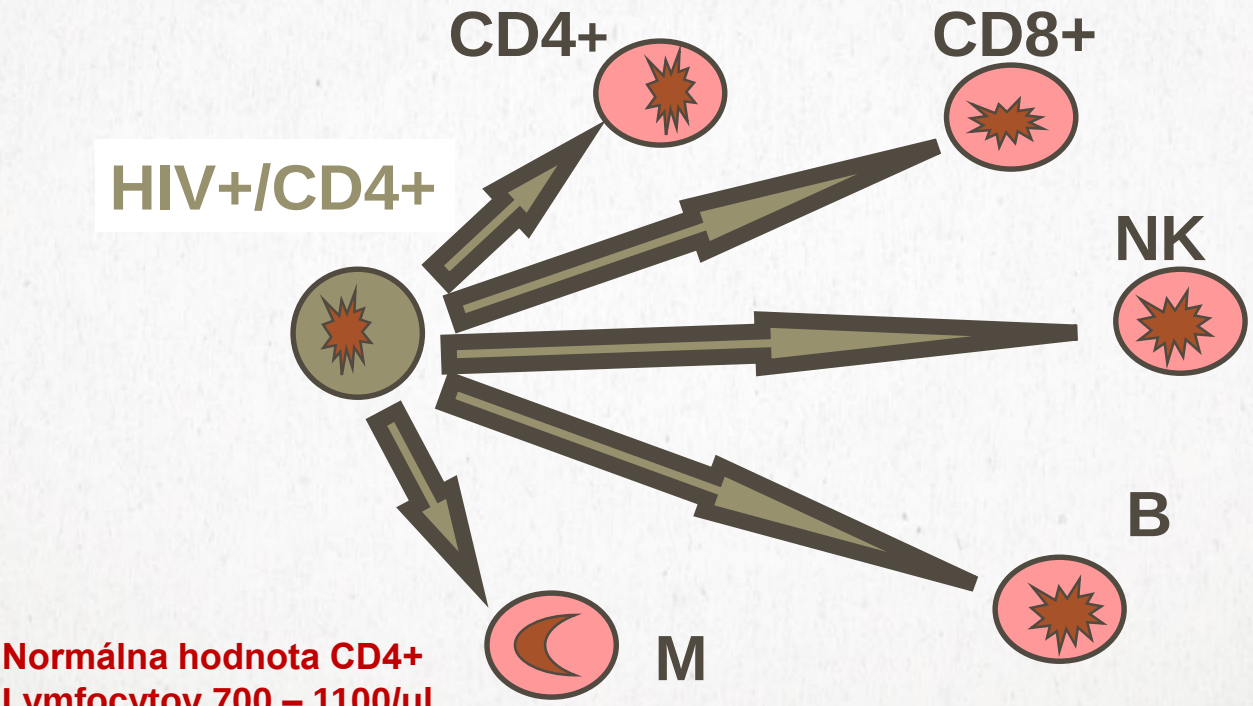

a
HIV
HIV gp120
RNA
Capsid core
Reverse transcriptase
Integrase
Virus adsorption
Fusion inhibitors
Virus–cell fusion
Co-receptor antagonists
CD4 receptor and CXCR4 or CCR5 co-receptor proteins
Uncoating
Reverse transcription
Reverse transcriptase inhibitors (NRTIs, NtRTIs, NNRTIs)
Integrase inhibitors
DNA
Integration (Strand transfer)
Transcription
CD4+ T cell
Translation
Polypeptide
Protease inhibitors
Proteolytic processing by viral protease
Viral proteins and RNA assemble at the cell membrane
Budding
b
HCV
Envelope gpE1
Envelope
Nucleocapsid
Receptor binding
LDLR
GAG
SR-BI
CD81
CLDN1
Endocytosis
Clathrin-coated pit
Genome release
(+)RNA
RNA replicase inhibitors (NRRIs, NNRRIs)
(–)RNA
(+)RNA
Translation
Polypeptide
Protease inhibitors
Proteolytic processing by viral protease
Exocytosis
Hepatocyte
Budding
Nature Reviews | Drug Discovery

HIV infekcia znižuje počet špecifických lymfocytov – CD4+



Normálna hodnota CD4+
Lymfocytov 700 – 1100/ul

PRI ZNÍŽENÍ CD4 + LYMFOCYTOV VZNIKAJÚ

Oportunisické infekcie

- Pneumocystová pneumónia
- Tuberkulóza
- CMV infekcia so závažným priebehom
- Parazitárne a hubovité ochorenia

Nádory

- Kaposiho sarkóm
- Lymfómy
- Nádory spôsobené HPV vírusom

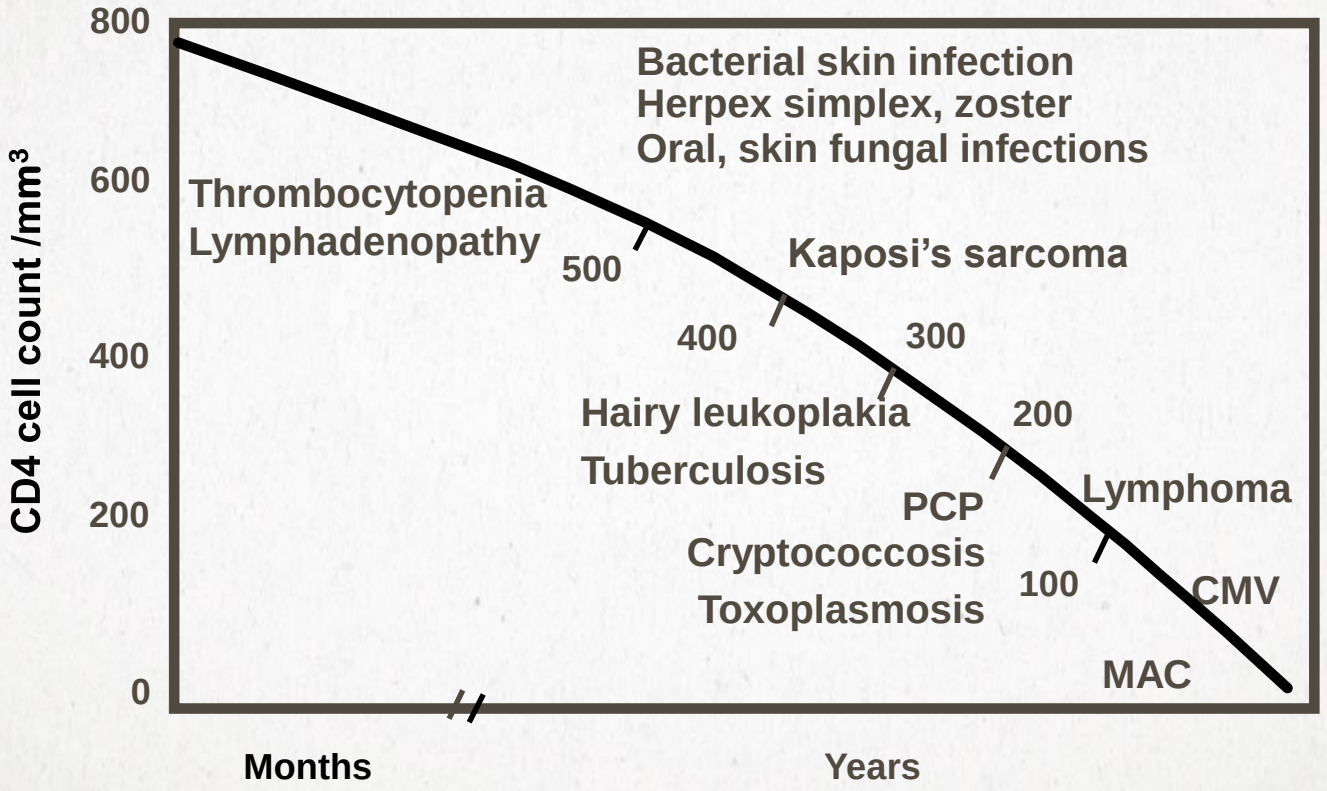
Primárna infekcia HIV

TABLE 1. FREQUENCY OF SYMPTOMS AND FINDINGS ASSOCIATED WITH ACUTE HIV-1 INFECTION.

SYMPTOM OR FINDING	PERCENTAGE OF PATIENTS
Fever	>80–90
Fatigue	>70–90
Rash	>40–80
Headache	32–70
Lymphadenopathy	40–70
Pharyngitis	50–70
Myalgia or arthralgia	50–70
Nausea, vomiting, or diarrhea	30–60
Night sweats	50
Aseptic meningitis	24
Oral ulcers	10–20
Genital ulcers	5–15
Thrombocytopenia	45
Leukopenia	40
Elevated hepatic-enzyme levels	21

The NEW ENGLAND JOURNAL of MEDICINE

Počet CD4 lymfocytov a vznik oportunistických infekcií



MONITOROVANIE HIV INFEKCIE

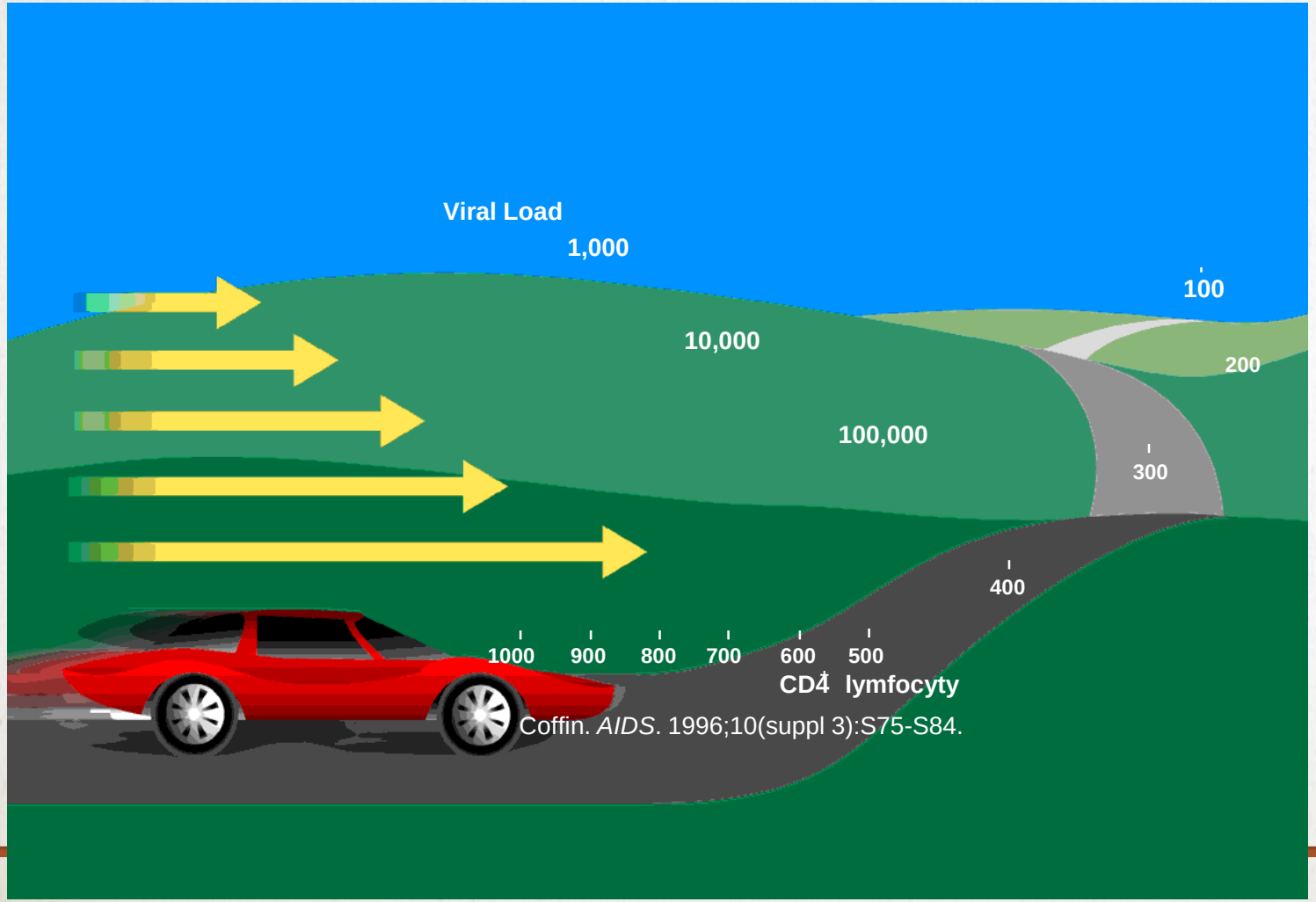
- CD4 lymfocyty – v minulosti CD4/CD8
- Vírusová nálož (viral load) – množstvo kópií HIV RNA
- Oportunistické infekcie a nádory

VÍRUSOVÁ NÁLOŽ – VIRAL LOAD

- Množstvo vírusu, ktorý cirkuluje v krvi
- Čím vyššia vírusová nálož, tým rýchlejšia progresia infekcie
- U rozvinutej infekcie často nad 100 000 kópií HIV RNA/ul plazmy

- Optimálny stav – nezistiteľná vírusová nálož – súčasné detekčné systémy dokážu zistiť 20 – 40 kópií HIV RNA/ul plazmy

PROGRESIA OCHORENIA VO VZŤAHU K HLADINE CD4 LYMFOCYTOV A VÍRUSOVEJ NÁLOŽI



Coffin. *AIDS*. 1996;10(suppl 3):S75-S84.

CIELE LIEČBY HIV INFEKCIE

Primárne ciele

- Vírusová nálož (viral load) –pokles na nedetegovateľnú hladinu – menej ako 50 RNA kópií/ul
- CD4+ lymfocyty – vzostup a dlhodobé udržiavanie v referenčnom rozmedzí 700 – 1100/ul

Sekundárne ciele

- Bezpečná liečba bez vedľajších príhod
- Liečba virologicky stabilná – bez selekcie rezistencie

KOHO TESTOVAŤ

- Rizikové sexuálne správanie
- Žiadosť pacienta
- Atypický priebeh chorôb – indikatívne stavy
- Infekčná mononukleóza, chrípka
- HIV pozitívny partner

HIV MINULOSŤ / SÚČASNOSŤ

- 39 ročná pacientka
- HIV pozitívna od svojich 20 rokov
- HIV získala od prvého sexuálneho partnera
- Pohlavný styk pred svadbou neudáva
- HIV pozitivita zistená náhodne pred plánovaným štúdiom v USA

HIV MINULOSŤ / SÚČASNOSŤ

- Zdroj infekcie 42 ročný manžel
- HIV infikovaný pravdepodobne pri pobyte v USA/ 2 sexuálne partnerky
- Fajčiar 15 ciagariet denne
- HIV pozitivita zistená náhodne pred plánovaným štúdiom v USA

OTÁZKY PO OZNÁMENÍ HIV INFEKCIE V ROKU 1999

MANŽELKA

- Ako dlho budem žiť?
- Budem môcť mať deti?
- Budú deti infikované HIV, aká je šanca?
- Mám odpustiť manželovi?

MANŽEL

- Ako dlho budem žiť?
- Môžem fajčiť ďalej?
- Bude život aspoň pár rokov kvalitný?

OTÁZKY PO OZNÁMENÍ HIV INFEKCIE V ROKU 1999

MANŽELKA

- Ako dlho budem žiť?

MANŽEL

- Ako dlho budem žiť?

CIELE LIEČBY HIV INFEKCIE

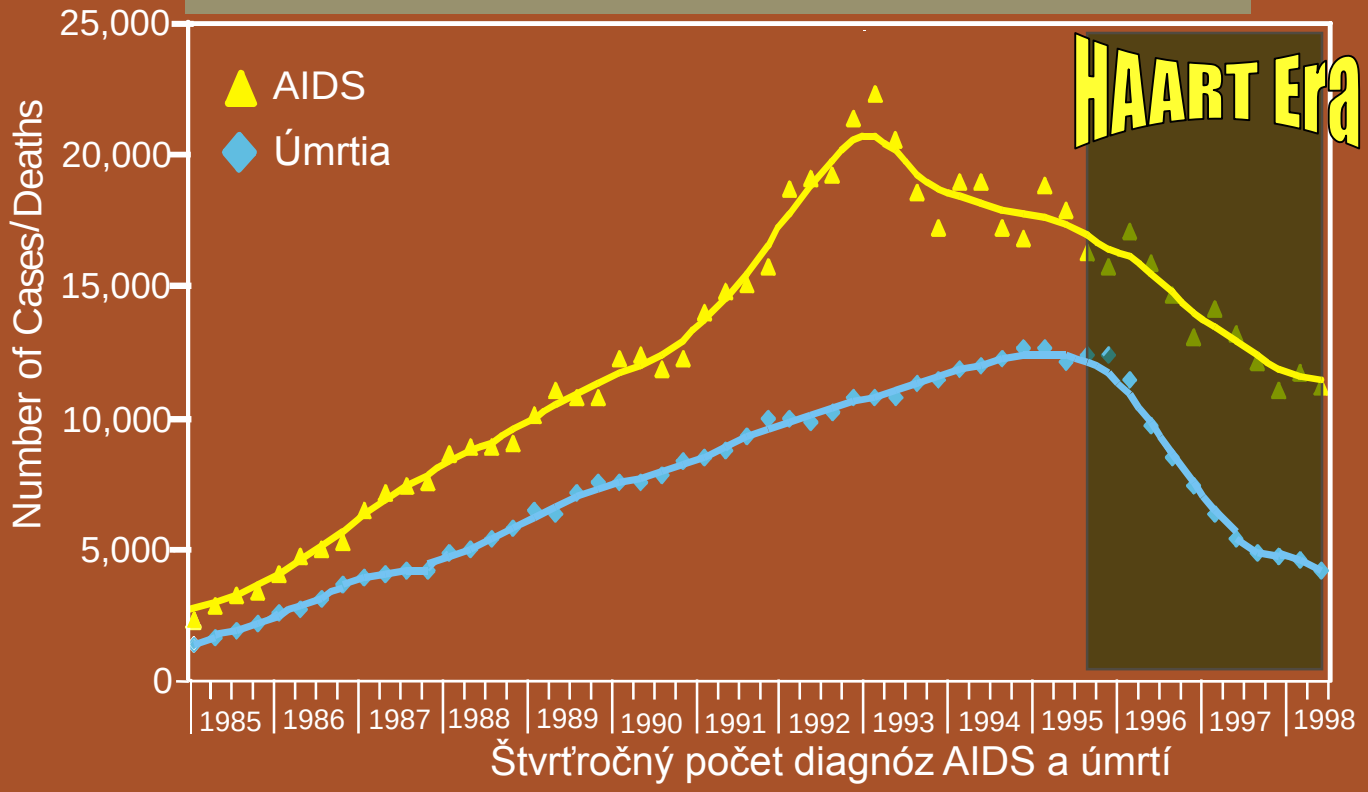
Primárne ciele

- Vírusová nálož (viral load) –pokles na nedetegovateľnú hladinu – menej ako 50 RNA kópií/ul
- CD4+ lymfocyty – vzostup a dlhodobé udržiavanie v referenčnom rozmedzí 700 – 1100/ul

Sekundárne ciele

- Bezpečná liečba bez vedľajších príhod
- Liečba virologicky stabilná – bez selekcie rezistencie

VPLYV HAART NA VZNIK AIDS A ÚMRTIA PACIENTOV



HIV, AIDS

Ako dlho bude prežívať pacient, ktorý je v 30 rokoch infikovaný HIV / AIDS?

Projected life expectancy of people with HIV according to timing of diagnosis

Fumiyo Nakagawa[a], Rebecca K Lodwick[a], Colette J Smith[a], Ruth Smith[b], Valentina Cambiano[a], Jens Lundgren[c,d], Valerie Delpech[b] and Andrew N Phillips[a]

Background: Effective antiretroviral therapy (ART) has contributed greatly towards survival for people with HIV, yet many remain undiagnosed until very late. Our aims were to estimate the life expectancy of an HIV-infected MSM (men-who-have-sex-with-men) living in a developed country with extensive access to ART and healthcare, and to assess the effect of late diagnosis on life expectancy.

Methods: A stochastic computer simulation model of HIV infection and the effect of ART was used to estimate life expectancy and determine the distribution of potential lifetime outcomes of an MSM who becomes HIV positive in 2010 aged 30 years. The effect of altering the diagnosis rate was investigated.

Results: Assuming a high rate of HIV diagnosis (median CD4 count at diagnosis: 432 cells/mm^3), projected median age at death (life expectancy) was 75.0 years. Therefore, 7.0 years of life were lost on average due to HIV; comparable to the effect of cigarette smoking. Cumulative risks of death by five and ten years after infection were 2.3% and 5.2%. The 95% uncertainty bound for life expectancy was (68.0,77.3) years. When a low diagnosis rate was assumed (diagnosis only when symptomatic; median CD4 count 140 cells/mm^3), life expectancy was 71.5 years, implying an average 10.5 years of life lost due to HIV.

Conclusions: If low rates of virologic failure observed in treated patients continue, predicted life expectancy is relatively high in people with HIV who can access a wide range of antiretrovirals. The greatest risk of excess mortality is due to delays in HIV diagnosis.

AIDS 2011, **25**:000–000

Keywords: antiretroviral therapy, diagnosis, life expectancy, model

Table 1. Estimated life expectancy (median age at death), according to diagnosis rate and scenarios.

Diagnosis rate[a]	Scenario	Life expectancy (Median age at death)[b]	IQR of age at death
High	–	75.0	(62.5, 83.3)
	10-fold increase in ART interruption in those with low tendency to adhere[c]	73.8	(60.3, 82.8)
	Rate of ART interruption reduced to 0	76.5	(65.8, 84.8)
	Men were less adherent in general[d]	73.5	(58.8, 82.8)
	0% of men smokers for life	78.0	(65.5, 86.0)
	SMR = 1.1 for CD4 > 500 cells/mm[e]	75.3	(63.0, 83.5)
	High uptake of ART following diagnosis[e]	75.0	(63.0, 83.5)
	Low uptake of ART following diagnosis[f]	75.0	(62.5, 83.5)
	Very low uptake of ART following diagnosis[g]	74.8	(62.5, 83.3)
Low	–	71.5	(51.8, 81.8)
	3-fold raised risk of AIDS-related deaths occurring at HIV diagnosis	66.0	(43.8, 80.5)
No HIV	–	82.0	(72.8, 89.3)
	0% of men smokers for life	84.8	(75.8, 91.3)
	100% of men smokers for life	77.8	(68.8, 84.8)
Very high	–	75.3	(63.5, 83.3)
Medium	–	74.5	(61.5, 83.3)

ART, antiretroviral therapy; IQR, interquartile range; SMR, standardised mortality ratio.

[a]The rate of diagnosis was altered such that the median CD4 cell counts at diagnosis were 140, 351, 432 and 509 cells/mm^3 respectively for low, medium, high and very high diagnosis rates.

[b]Age at death presented in years.

[c]compared to 1.5-fold in initial model.

[d]whereby they were over 80% adherent for only 57% of their time on ART and between 50–80% adherent for only 34% of the time (compared to over 80% adherent during 96% of the time spent on ART in initial model).

[e]98% chance of initiation of ART if CD4 $\leq$ 500 cellls/mm3.

[f]80% chance of initiation of ART if CD4 < 350 cells/mm3 and 2% chance of initiation of ART if CD4 $\geq$ 350 cells/mm3.

[g]50% chance of initiation of ART if CD4 $\leq$ 500 cellls/mm3.

PREDPOKLADANÁ DĹŽKA ŽIVOTA HIV POZITÍVNEHO PACIENTA V ZÁVISLOSTI OD LIEČBY

JUST DIAGNOSED ▶

15 Ways to Live to be 100 When You Have HIV

The average poz person diagnosed today is expected to live to be 80. Follow these guidelines and you could hit the century mark.

By Michelle Garcia

ORIGINAL ARTICLE

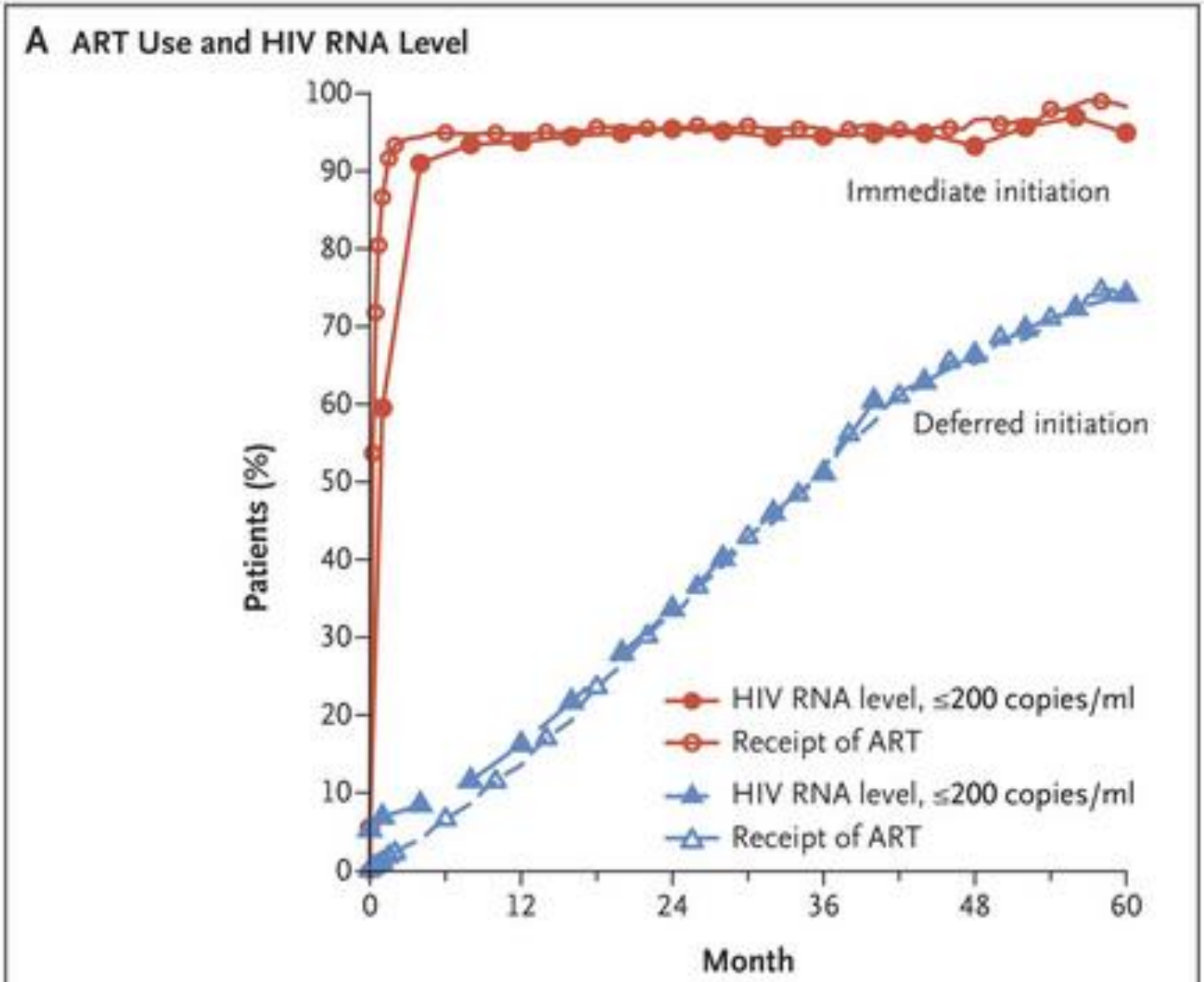
Initiation of Antiretroviral Therapy in Early Asymptomatic HIV Infection

The INSIGHT START Study Group

August 27, 2015
N Engl J Med 2015; 373:795-807
DOI: 10.1056/NEJMoa1506816

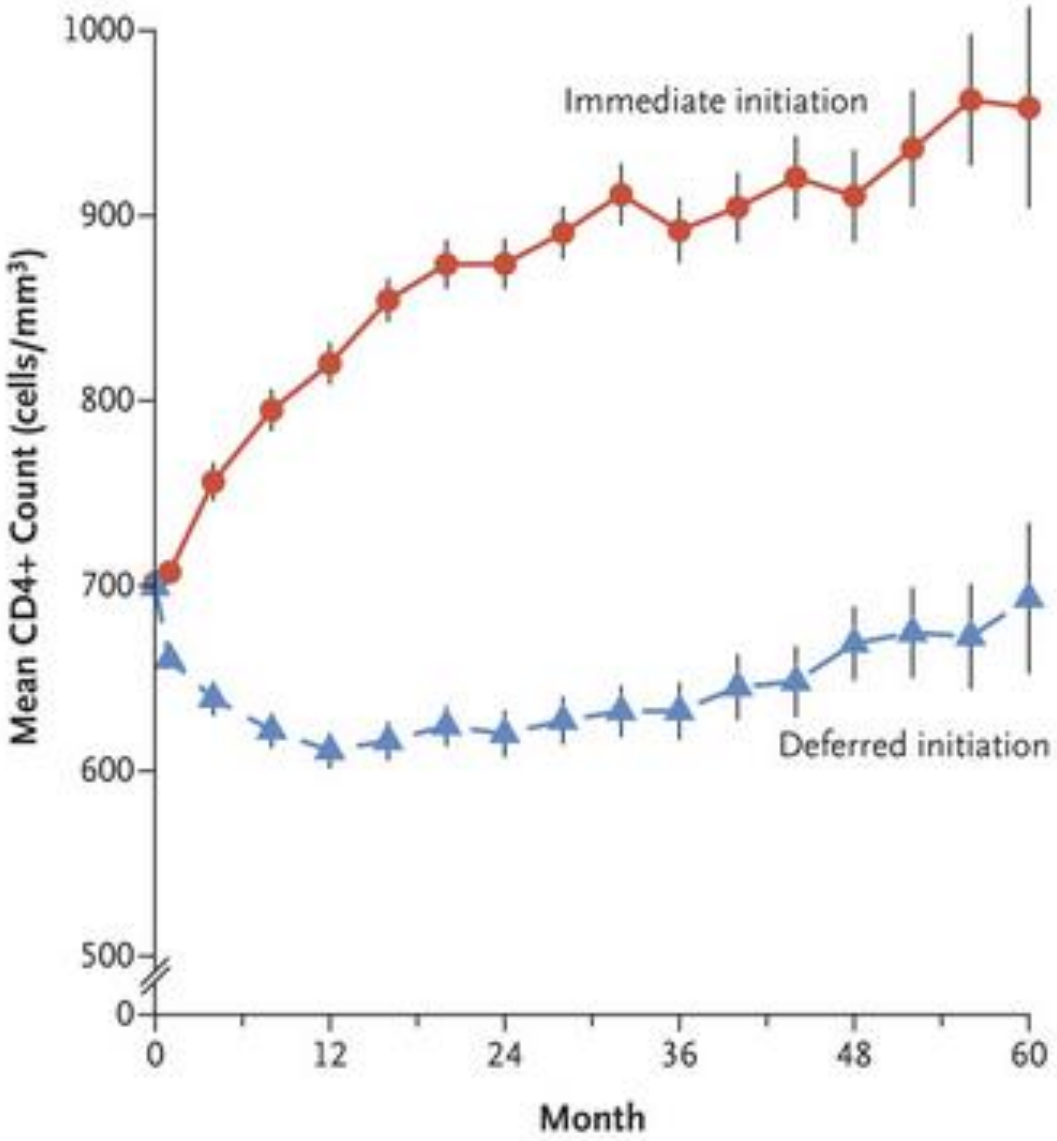
Table 1. Characteristics of the Patients at Baseline.*

Characteristic	Immediate-Initiation Group (N=2326)	Deferred-Initiation Group (N=2359)	All Patients (N=4685)
Median age (IQR) — yr	36 (29–44)	36 (29–44)	36 (29–44)
Female sex — no. (%)	624 (26.8)	633 (26.8)	1,257 (26.8)
Race or ethnic group — no. (%)†			
Asian	198 (8.5)	190 (8.1)	388 (8.3)
Black	702 (30.2)	708 (30.0)	1,410 (30.1)
Latino or Hispanic	320 (13.8)	318 (13.5)	638 (13.6)
White	1,015 (43.6)	1,071 (45.4)	2,086 (44.5)
Other	91 (3.9)	72 (3.1)	163 (3.5)
Geographical region — no. (%)			
Africa	499 (21.5)	501 (21.2)	1,000 (21.3)
Asia	179 (7.7)	177 (7.5)	356 (7.6)
Australia	56 (2.4)	53 (2.2)	109 (2.3)
Europe and Israel	763 (32.8)	776 (32.9)	1,539 (32.8)
North America	248 (10.7)	259 (11.0)	507 (10.8)
South America and Mexico	581 (25.0)	593 (25.1)	1,174 (25.1)
Mode of infection with HIV — no. (%)			
Sexual contact			
Men having sex with men	1,300 (55.9)	1,286 (54.5)	2,586 (55.2)
With person of opposite sex	873 (37.5)	917 (38.9)	1,790 (38.2)
Injection-drug use	37 (1.6)	27 (1.1)	64 (1.4)
Blood products, other, or unknown	116 (5.0)	129 (5.5)	245 (5.2)
Median time since HIV diagnosis (IQR) — yr	1.0 (0.4–3.0)	1.1 (0.4–3.1)	1.0 (0.4–3.1)
Median CD4+ count (IQR) — cells/mm^3‡	651 (585–765)	651 (582–764)	651 (584–765)
Median HIV RNA (IQR) — copies/ml	13,000 (3133–43,808)	12,550 (2963–42,567)	12,759 (3019–43,391)
Current smoker — no. (%)	730 (31.4)	766 (32.5)	1,496 (31.9)
Median CHD risk at 10 yr (IQR) — %§	1.9 (0.5–5.0)	1.9 (0.5–5.3)	1.9 (0.5–5.1)



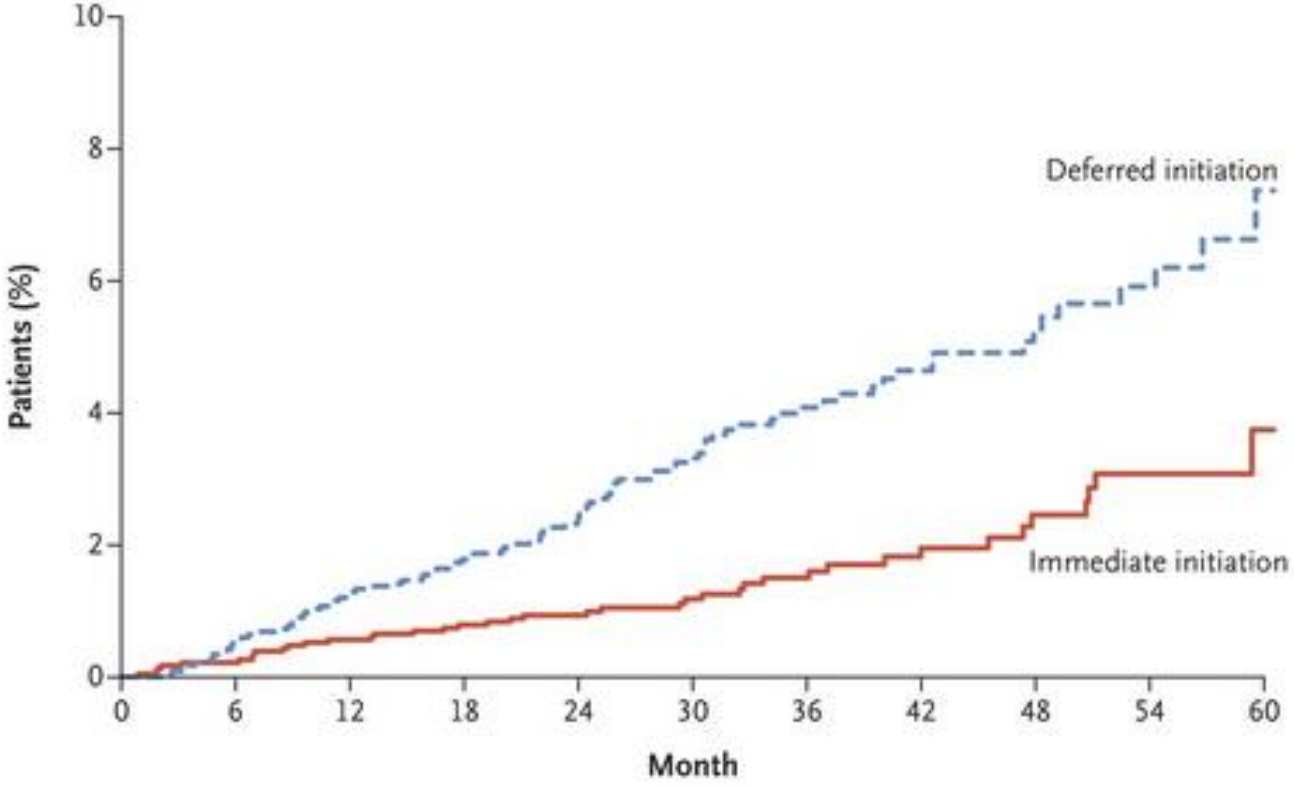
No. of Patients						
Immediate initiation	2326	2287	1809	1040	551	115
Deferred initiation	2359	2303	1837	1055	546	109

B CD4+ Count

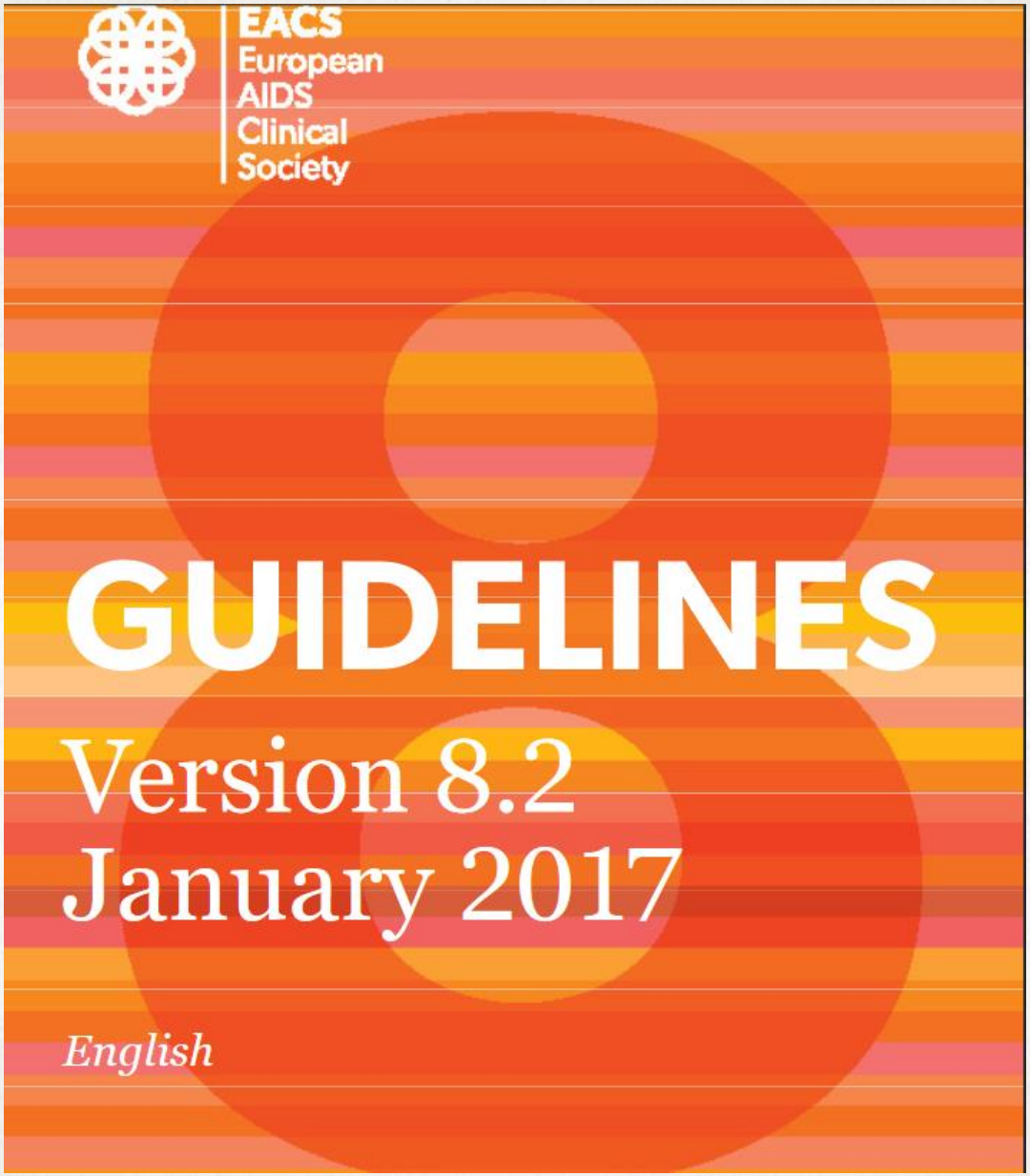


No. of Patients						
Immediate initiation	2326	2205	1853	1075	574	157
Deferred initiation	2359	2190	1829	1077	549	162

A Time to First Primary Event



No. at Risk											
Immediate initiation	2326	2302	2279	2163	1801	1437	1031	757	541	336	110
Deferred initiation	2359	2326	2281	2135	1803	1417	1021	729	520	334	103
Estimated Percentage											
Immediate initiation		0.2	0.6	0.8	0.9	1.2	1.5	2.0	2.5	3.1	3.7
Deferred initiation		0.5	1.2	1.8	2.4	3.3	4.1	4.6	5.3	5.9	7.4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GUIDELINES
Version 8.2
January 2017
English

Initial Combination Regimen for ART-naïve Adult HIV-positive Persons

A) Recommended regimens (one of the following to be selected)[*,**]

Regimen	Dosing	Food requirement	Caution
2 NRTIs + INSTI			
ABC/3TC/DTG[iii, iii]	ABC/3TC/DTG 600/300/50 mg, 1 tablet qd	None	Al/Ca/Mg-containing antacids or multivitamins should be taken well separated in time (minimum 2h after or 6h before). DTG 50 mg bid with rifampicin.
TAF/FTC[iii] or TDF/FTC[iv, v] + DTG	TAF/FTC 25/200 mg, 1 tablet qd or TDF/FTC 300/200 mg, 1 tablet qd + DTG 50 mg, 1 tablet qd	None	
TAF/FTC/EVG/c[iii] or TDF/FTC/EVG/c[iv, vi]	TAF/FTC/EVG/c 10/200/150/150 mg, 1 tablet qd or TDF/FTC/EVG/c 300/200/150/150 mg, 1 tablet qd	With food	Al/Ca/Mg-containing antacids or multivitamins should be taken well separated in time (minimum 2h after or 6h before).
TAF/FTC[iii] or TDF/FTC[iv, v] + RAL	TAF/FTC 25/200 mg, 1 tablet qd or TDF/FTC 300/200 mg, 1 tablet qd + RAL 400 mg, 1 tablet bid	None	Co-administration of antacids containing Al or Mg not recommended. RAL 400 or 800 mg bid with rifampicin.
2 NRTIs + NNRTI			
TAF/FTC/RPV[iii] or TDF/FTC/RPV[iv]	TAF/FTC/RPV 25/200/25 mg, 1 tablet qd or TDF/FTC/RPV 300/200/25 mg, 1 tablet qd	With food (min 390 Kcal required)	Only if CD4 count > 200 cells/µL and HIV-VL < 100,000 copies/mL. PPI contra-indicated; H2 antagonists to be taken 12h before or 4h after RPV.
2 NRTIs + PI/r or PI/c			
TAF/FTC[iii] or TDF/FTC[iv, v] + DRV/c or + DRV/r	TAF/FTC 10/200 mg, 1 tablet qd or TDF/FTC 300/200 mg, 1 tablet qd DRV/c 800/150 mg, 1 tablet qd or + DRV 800 mg, 1 tablet qd + RTV 100 mg, 1 tablet qd	With food	Monitor in persons with a known sulfonamide allergy.

OTÁZKY PO OZNÁMENÍ HIV INFEKCIE V ROKU 1999

MANŽELKA

- Ako dlho budem žiť?

MANŽEL

- Ako dlho budem žiť?
- Môžem fajčiť ďalej?

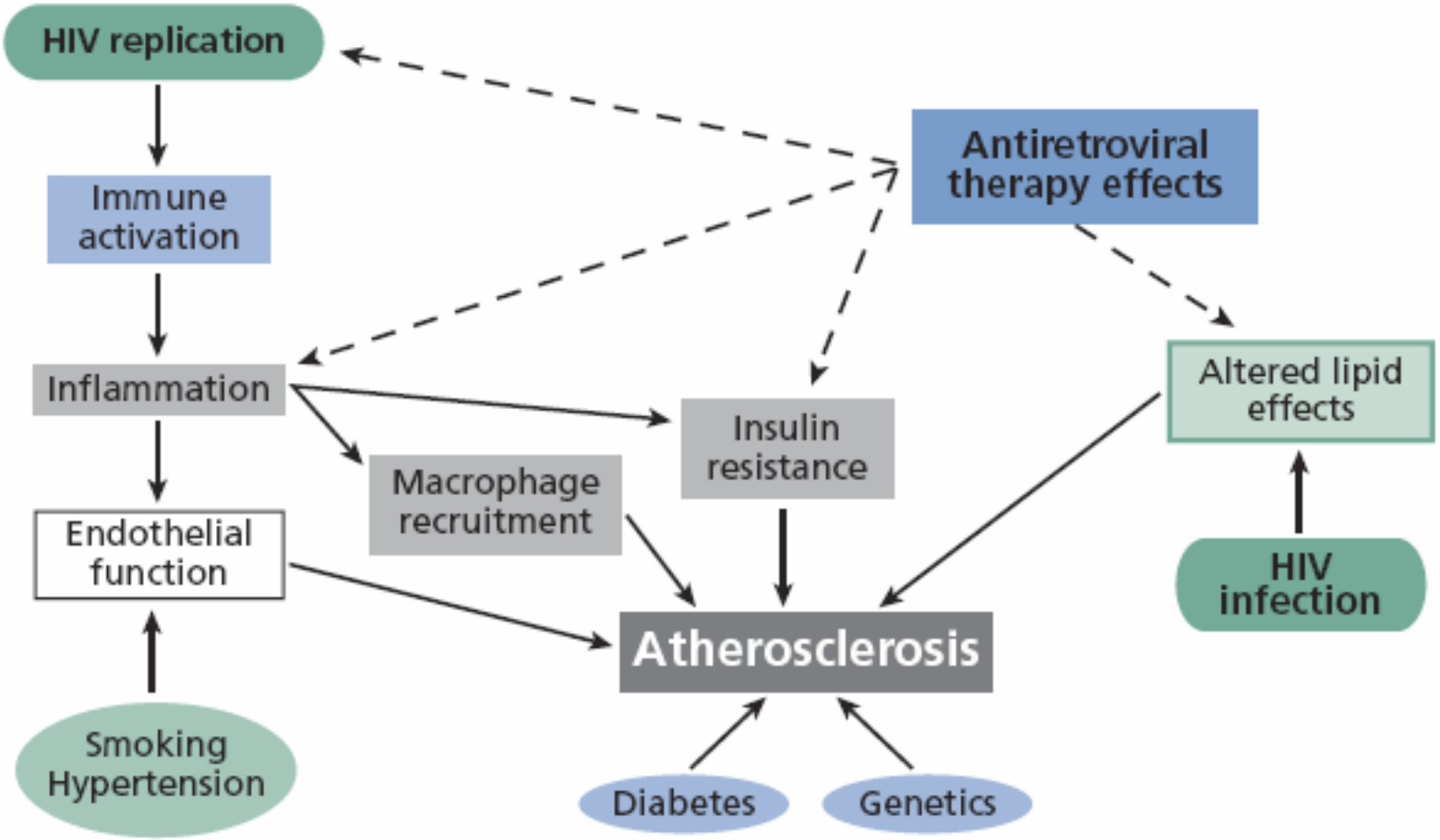
AKÁ JE NAJČASTEJŠIA PRÍČINA ÚMRTIA HIV POZITÍVNEHO PACIENTA V ZÁPADNEJ EURÓPE?

AKÁ JE NAJČASTEJŠIA PRÍČINA ÚMRTIA HIV POZITÍVNEHO PACIENTA V ZÁPADNEJ EURÓPE?

Infarkt myokardu

Kardiovaskulárne ochorenia

HIV, LIPIDY,ATEROSKLERÓZA



HIV A INFARKT MYOKARDU

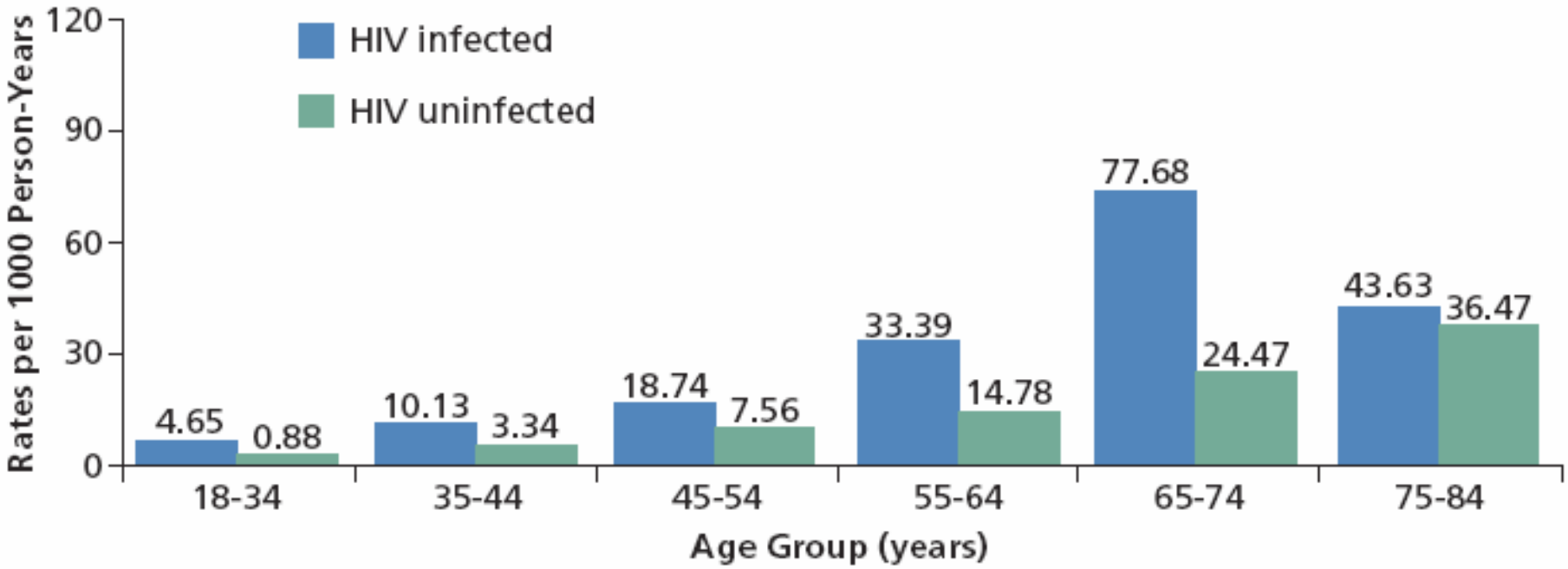


Figure **1.** Myocardial infarction rates in HIV-infected (n = 3851) versus HIV-uninfected (n = 1,044,589) patients in a Massachusetts administrative hospital database, for 1996-2004. Adapted from Triant et al, *J Clin Endocrinol Metab*, 2007.

- Štúdia D.A.D. ukazuje, že limitujúcim faktorom prežívania pacientov s dobre kontrolovanou liečbou je výskyt kardiovaskulárnych ochorení
- Výskyt kardiovaskulárnych ochorení priamo súvisí s poruchou lipidového metabolizmu, ktorá je navodená HAART

AKÉ SÚ ĎALŠIE PRÍČINY ÚMRTIA HIV POZITÍVNEHO PACIENTA V ZÁPADNEJ EURÓPE?

MEDI PARK KOŠICE

- Onkologické ochorenia
- Oportunistické infekcie
- Predávkovanie drogami
- Neuropsychiatrické ochorenia

OTÁZKY PO OZNÁMENÍ HIV INFEKCIE V ROKU 1999

MANŽELKA

- Ako dlho budem žiť?

MANŽEL

- Ako dlho budem žiť?
- Môžem fajčiť ďalej?
- Bude život aspoň pár rokov kvalitný?

Table of Contents

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Imprint

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Copyright	EACS, 2014

MEDI PARK KOŠICE

EACS GUIDELINES 2017

- Čo vyšetrujeme pri zaradení pacienta do dispenzarizácie a pred začatím liečby?
- Čo moonitorujeme počas liečby?

	Assessment	At HIV diagnosis	Prior to starting cART	Follow-up frequency	Comment
COINFECTIONS					
STIs	• Syphilis serology	+		Annual/as indicated	Consider more frequent screening if at risk
	• STI screen	+		Annual/as indicated	Screen if at risk
Viral Hepatitis	• Hep A serology	+			Screen at risk, vaccinate if non-immune
	• Hep C screen	+		Annual/as indicated	Annual screen if ongoing risk. Measure HCV-RNA if HCV Ab+ve or if acute infection suspected. If HCV-RNA +ve
	• Hep B screen	+	+		Vaccinate if non-immune. Annual screen in susceptible patients. If Hep B sAg +ve
Tuberculosis	• CXR	+			Consider routine CXR in patients from high prevalence TB populations
	• PPD if CD4-count > 400	+		Re-screen if exposure	
	• IGRA in selected high risk populations (if available)	+			
Others	• Varicella zoster virus serology	+			Offer vaccination where indicated
	• Measles/Rubella serology	+			Offer vaccination where indicated
	• Toxoplasma serology	+			
	• CMV serology	+			
	• Leishmania serology	+/-			Screen according to travel history/origin
	• Tropical parasites: e.g. schistosomiasis, strongyloides serology	+/-			Screen according to travel history/origin

NON-INFECTIOUS CO-MORBIDITIES				
Haematology	• FBC	+	+	3-12 m
	• Haemoglobinopathies	+		
	• G6PD	+		
Body composition	• Body-mass index	+	+	Annual
Cardiovascular disease	• Risk assessment (Framingham score [iii])	+	+	Annual
	• ECG	+	+/-	

	Assessment	At HIV diagnosis	Prior to starting cART	Follow-up frequency
Hypertension	• Blood pressure	+	+	Annual
Lipids	• TC, HDL-c, LDL-c, TG [iv]	+	+	Annual
Glucose	• Plasma glucose	+	+	6-12 m
Liver disease	• Risk assessment [v]	+	+	Annual
	• ALT/AST, ALP, Bilirubin	+	+	3-12 m
Renal disease	• Risk assessment [vi]	+	+	Annual
	• eGFR (aMDRD) [vii]	+	+	3-12 m
	• Urine Dipstick analysis [viii]	+	+	Annual
Bone disease	• Bone profile: calcium, PO4, ALP	+	+	6-12 m
	• Risk assessment [x] (FRAX® [xi] in patients > 40 years)	+	+	2 yrs
Vitamin D	• 25 OH Vitamin D	+		As indicated
Neurocognitive impairment	• Screening questions	+	+	2 yrs
Depression	• Screening questions	+	+	1-2 yrs
Cancer	• Mammography			1-3 yrs
	• Cervical PAP			1-3 yrs
	• Anoscopy and PAP (MSM)			1-3 yrs
	• Ultrasound and alpha fetoprotein			6 m
	• Others			

950. A Longitudinal Analysis of Comorbidities among Human Immunodeficiency Virus (HIV) Patients and Matched non-HIV Controls in the USA

Session: Oral Abstract Session: HIV Clinical Management
Friday, October 28, 2016: 11:00 AM

MEDI PARK KOŠICE

	Commercial (2003-2013)		Medicaid (2003-2013)	
	Cases	Controls	Cases	Controls
	N=21,180	N=66,027	N=16,431	N=45,556
Age (mean, SD)	47.7 (10.5)	47.5 (10.3)	50.5 (10.0)	49.9 (10.1)
Ages 50+	12.9%	12.1%	18.2%	17.0%
Male (%)	84.4%	83.9%	53.4%	53.8%
Clinical conditions (%)				
CVD	6.7%	3.8%	10.5%	7.7%
RD	8.7%	2.7%	15.2%	6.0%
FX	7.6%	6.1%	13.0%	10.1%
Diabetes	10.1%	10.0%	16.1%	18.2%
Hypertension	31.1%	29.6%	37.4%	34.0%
Hepatitis C	5.4%	0.5%	22.8%	3.8%
Hyperlipidemia	31.0%	29.6%	22.4%	24.1%
Obesity	5.6%	6.6%	7.7%	10.2%
Endocrine Disease	20.8%	17.9%	26.3%	24.7%

OTÁZKY PO OZNÁMENÍ HIV INFEKCIE V ROKU 1999

MANŽELKA

- Ako dlho budem žiť?
- Budem môcť mať deti?
- Budú deti infikované HIV, aká je šanca?

MANŽEL

- Ako dlho budem žiť?
- Môžem fajčiť ďalej?
- Bude život aspoň pár rokov kvalitný?

MANAŽMENT HIV POZITÍVNEJ TEHOTNEJ ŽENY

Antiretroviral regimen in pregnancy	**Same as non pregnant**
	• Except avoid EFV
	• NVP not to be initiated but continuation is possible if started before pregnancy
	• Among PI/r, prefer LPV/r or SQV/r or ATV/r
	• RAL, DRV/r: little data available in pregnant women
	• ZDV should be part of the regimen if possible
Drugs contra-indicated during pregnancy	Efavirenz, ddI + d4T, triple NRTI combinations
IV zidovudine during labour	Benefit uncertain if plasma HIV RNA < 50 c/mL
Single dose nevirapine during labour	Not recommended
Caesarean section	Benefit uncertain if plasma HIV RNA < 50 c/mL at W34-36. In this case, consider vaginal delivery only

Treatment of HIV-positive Pregnant Women

Pregnant women should be monitored every month and as close as possible to the predicted delivery date

Criteria for starting ART in pregnant women (see different scenarios)	**Same as for non pregnant**
Objective of treatment in pregnant women	Full plasma HIV-VL suppression at least by third trimester and specifically at time of delivery
Resistance testing	Same as for non pregnant women, i.e. before starting ART and in case of virological failure
SCENARIO	
1. Women planning to be pregnant while already on ART	1. If under EFV, switch to another NNRTI or boosted PI because of risk of neural tube defects
2. Women becoming pregnant while already on ART	2. Maintain ART unless under EFV: switch to another agent (NVP or PI/r) if before 8 weeks (because of risk of neural tube defects)
3. Women becoming pregnant while treatment naive irrespective of whether they fulfil the criteria (CD4) for initiation of ART	3. Starting ART at beginning of 2nd trimester is highly recommended
4. Women whose follow-up starts after week 28 of pregnancy	4. Start ART immediately and consider adding RAL to obtain rapid HIV-VL decline in case of high HIV-VL
5. Women whose HIV-VL is not undetectable at third trimester	5. Perform resistance testing and consider adding RAL to obtain rapid HIV-VL decline
Antiretroviral regimen in pregnancy	Same as non pregnant
	NVP not to be initiated but continuation is possible if started before pregnancy
	EFV should be avoided during first trimester because of increase in neural tube defects*
	Among PI/r, prefer LPV/r, SQV/r or ATV/r
	If RAL, DRV/r: could be continued
Drugs contra-indicated during pregnancy	ddI + d4T, triple NRTI combinations
iv ZDV during labour	Benefit uncertain if HIV-VL < 50 copies/mL
Single dose NVP during labour	Not recommended
Caesarean section	Benefit uncertain if HIV-VL < 50 copies/mL at week 34-36. In this case, consider vaginal delivery only

* According to prospective studies [10-11]

3 ZÁKLADNÉ SCENÁRE GRAVIDITY A HIV POZITIVITY

- HIV status počas gravidity neznámy
- HIV status počas gravidity známy - klinický stav priaznivý
- HIV status počas gravidity známy - rozvinutý obraz ochorenia - AIDS

ZÁKLADNÉ SLEDOVANIE HIV POZITÍVNEJ PACIENTKY POČAS GRAVIDITY

- štandardné gynekologické vyšetrenia
- štandardné laboratórne vyšetrenia (KS, KO, biochémia, glykem. profil, tripple test, HBsAg, BWR, toxo.....)
- pravidelné USG kontroly

PÔROD

- Ak je vírusová nálož nezistiteľná – ako HIV negatívna žena
- Ak je vírusová nálož zistiteľná – cisársky rez

- Dieťa nedojčíme

HIV INFEKCIA A GRAVIDITA – NAŠE SKÚSENOSTI

- Počet HIV infikovaných žien: 12 (všetky vo fertilnom veku, 1 pacientka zomrela, 1 odišla mimo SR)
- Počet gravidných žien: 9
- Počet pôrodov: 25
- 25 detí anti HIV negatívnych
- Priemer detí na HIV+ ženu - 2,1

OTÁZKY V ROKU 2017

MANŽELKA

- Môžeme ísť na cestu do exotickej krajiny?
- Naozaj nemám pri užívaní PI zmenu distribúcie tukov?
- Manžel mi zabudol pri výročí sobáša kúpiť kyticu. Je to už porucha neurokognície?
- Lieky nám fungujú, ale nie je lepšie ich zameniť za bezpečnejšie?

MANŽEL

- Môžeme ísť na cestu do exotickej krajiny?
- Môžem fajčiť ďalej?

OTÁZKY V ROKU 2017

MANŽELKA

- Môžeme ísť na cestu do exotickej krajiny?

MANŽEL

- Môžeme ísť na cestu do exotickej krajiny?

Vaccination

	Vaccination rationale in HIV+	comment
Varicella	Higher rate and severity of both chickenpox and zoster	Vaccinate if seronegative
Streptococcus pneumoniae	Higher rate and severity of invasive disease	• In adults use PPV-23 polysaccharide vaccine [ii] • Consider delaying vaccination until CD4 ≥ 200/µL • Consider (single) booster after 5 years [iii]
Influenza		Yearly
Human Papillomavirus	Shared risk with HIV of contracting infection. Higher rate of cervical and anal cancer	Vaccination of women and men according to national guidelines
Hepatitis B	Shared risk with HIV of contracting infection. HIV accelerates liver disease progression	Consider double dose (40 µg) and intradermal vaccination in non-responders, in particular with low CD4 and high viraemia. Repeat doses until HBs antibodies ≥ 10 IU/L / ≥ 100 IU/L according to national guidelines
Hepatitis A	According to risk profile (travel, MSM, IVDU, active hepatitis B or C infection)	Check antibody titres in high risk population
Yellow fever	Mandatory for travel to selected countries (provide exemption letter if no true risk of exposure)	• Contraindicated if past or current haematological neoplasia or thymus affection • Relatively contraindicated at age > 60y

OTÁZKY V ROKU 2017

MANŽELKA

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- Naozaj nemám pri užívaní PI zmenu distribúcie tukov?
- Manžel mi zabudol pri výročí sobáša kúpiť kyticu. Je to už porucha neurokognície?
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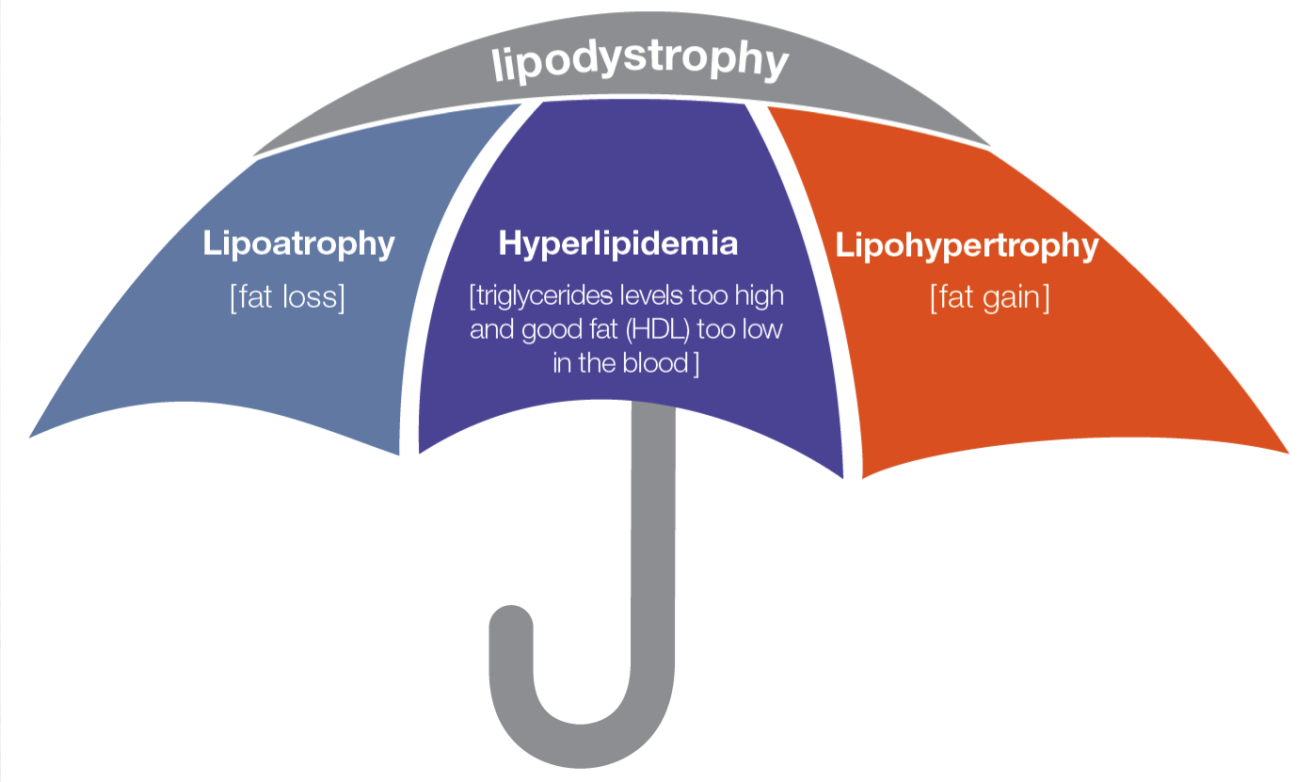
- Môžem fajčiť ďalej?

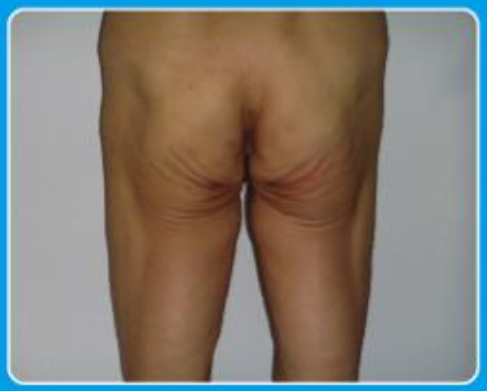
LIPODYSTROFICKÝ DÁŽDNIK



LIPODYSTROFIA - ŽENA





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Sanmarti *et al. Journal of Molecular Psychiatry* 2014, **2**:2
http://www.jmolecularpsychiatry.com/content/2/1/2

JMP JOURNAL OF MOLECULAR PSYCHIATRY

REVIEW Open Access

HIV-associated neurocognitive disorders

Montserrat Sanmarti[1,2*], Laura Ibáñez[2], Sonia Huertas[3], Dolors Badenes[3], David Dalmau[1,2], Mark Slevin[4], Jerzy Krupinski[2,3,4], Aurel Popa-Wagner[5] and Angeles Jaen[2]

Abstract

Currently, neuropsychological impairment among HIV+ patients on antiretroviral therapy leads to a reduction in the quality of life and it is an important challenge due to the high prevalence of HIV-associated neurocognitive disorders and its concomitant consequences in relation to morbidity and mortality- including those HIV+ patients with adequate immunological and virological status. The fact that the virus is established in CNS in the early stages and its persistence within the CNS can help us to understand HIV-related brain injury even when highly active antiretroviral therapy is effective. The rising interest in HIV associated neurocognitive disorders has let to development new diagnostic tools, improvement of the neuropsychological tests, and the use of new biomarkers and new neuroimaging techniques that can help the diagnosis. Standardization and homogenization of neurocognitive tests as well as normalizing and simplification of easily accessible tools that can identify patients with increased risk of cognitive impairment represent an urgent requirement. Future efforts should also focus on diagnostic keys and searching for useful strategies in order to decrease HIV neurotoxicity within the CNS.

Keywords: HIV, Neurocognitive disorders, HAND

Incidencia HAND – 40 – 50%
Prevencia HAND – skorý záchyt HIV, včasná liečba?

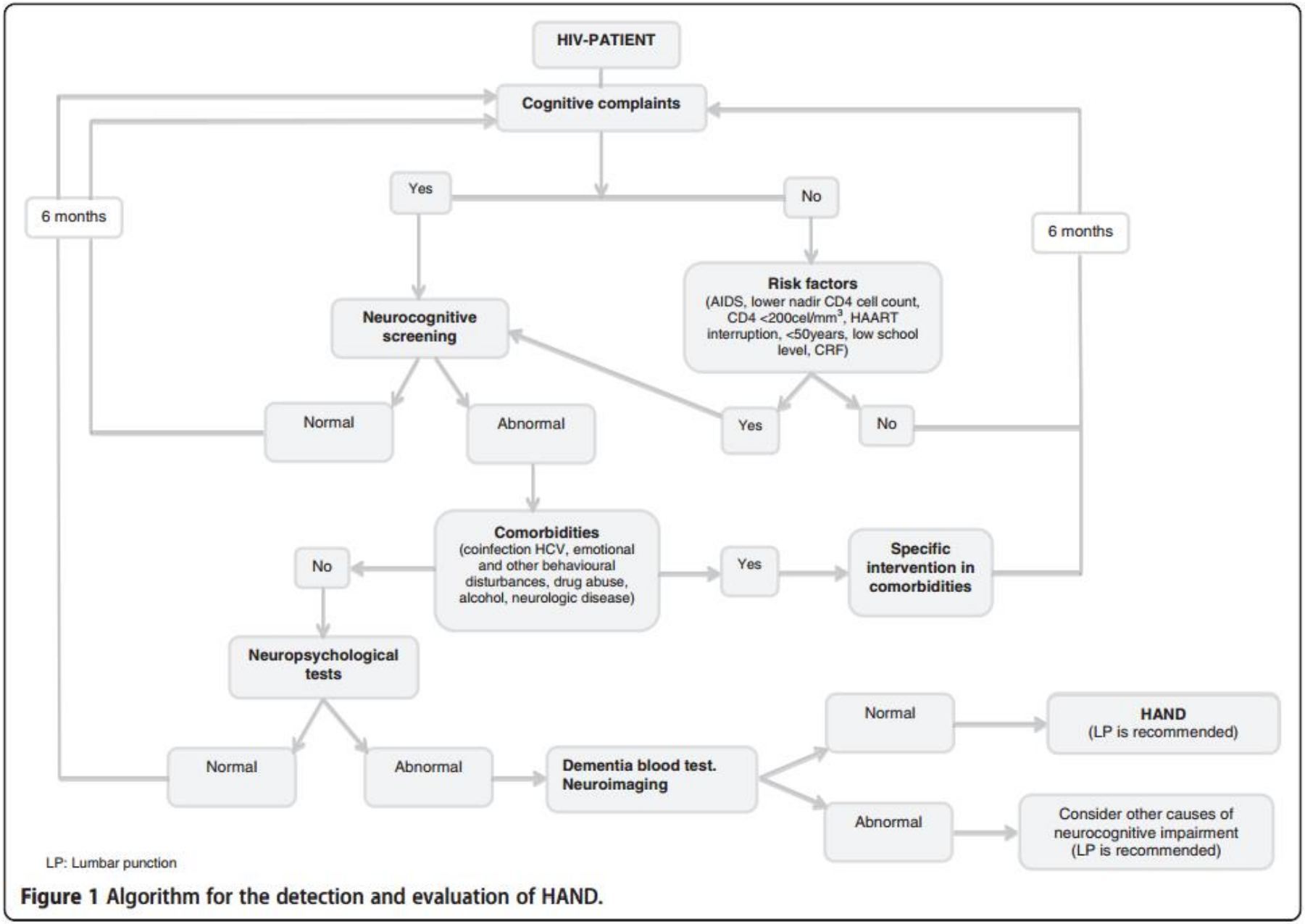

Figure 1 Algorithm for the detection and evaluation of HAND.

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- Nie je lepšia tá schéma, kde všetky lieky sú v jednej tabletke?

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MAGIC JOHNSON – 1991

Opening-weekend deaths of 3 hunters spark safety warnings/See below

FRIDAY
NOVEMBER 8, 1991
MORNING HOME

San Antonio Light
We're Your Paper.

TRAGIC

■ NBA star Johnson retires after testing positive for HIV

■ Rest of sports world reacts with shock to the revelation

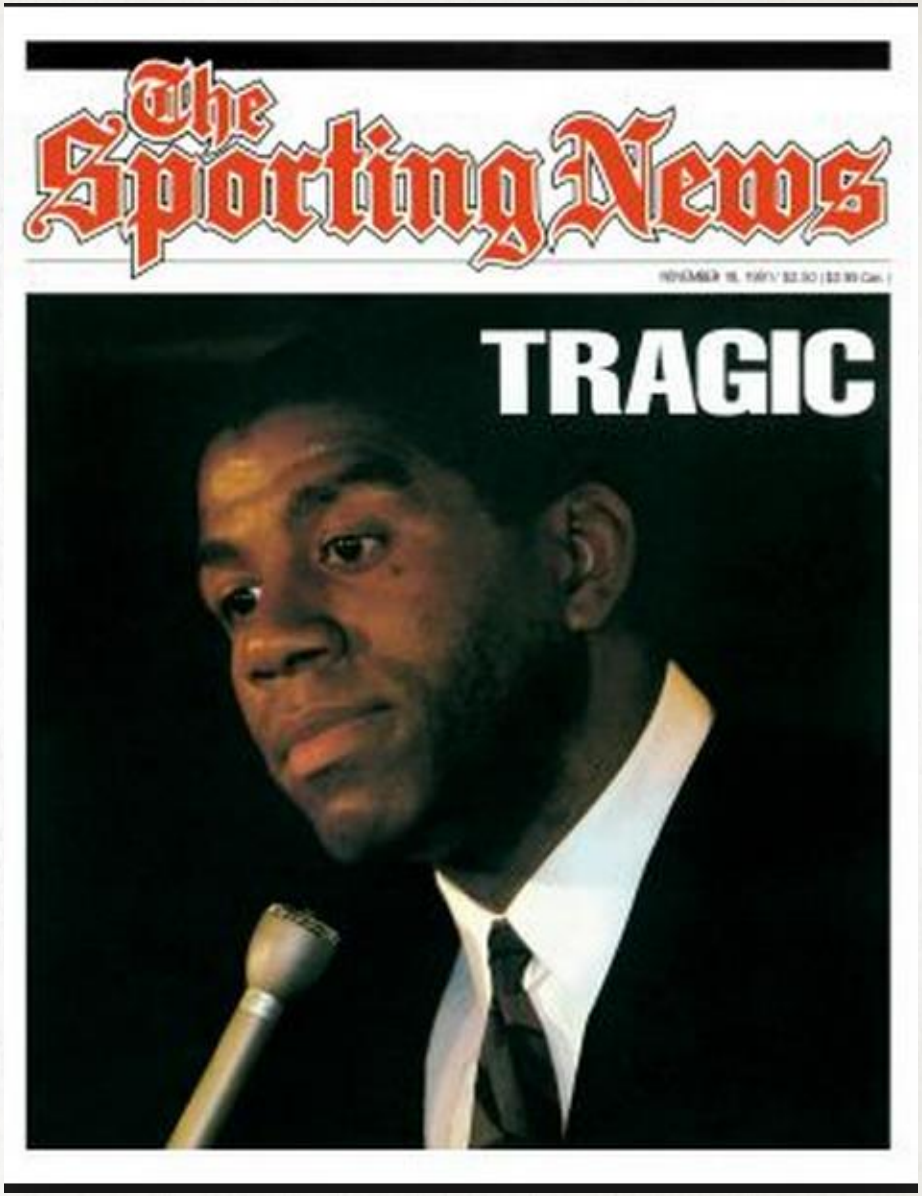
MAGIC MARVIN
Superstar to teach the lesson of his life

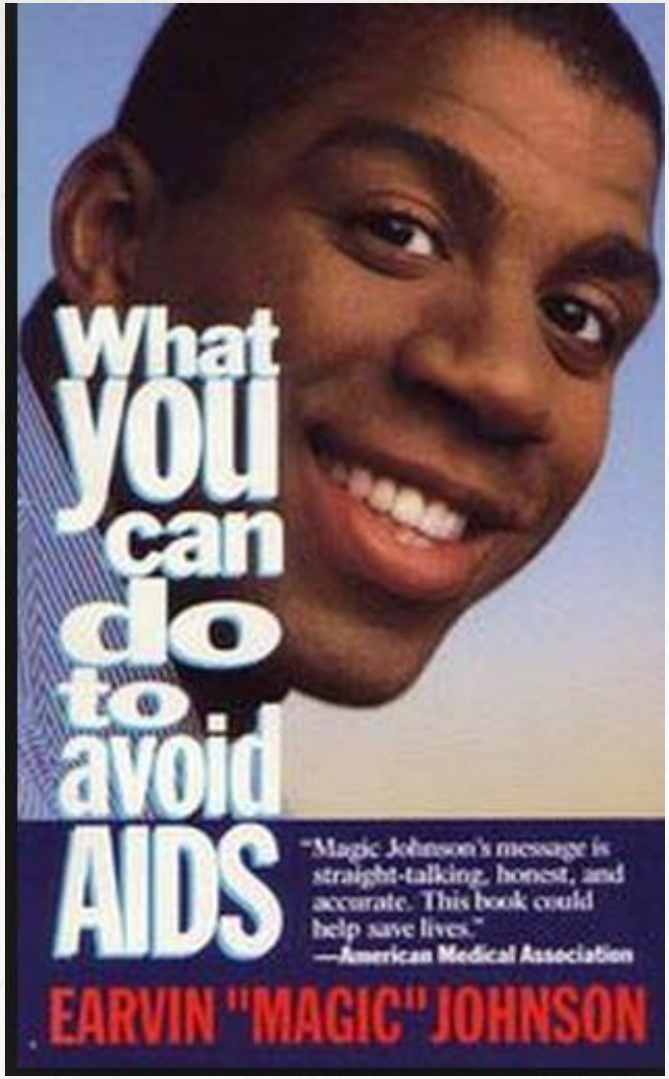
Bush tells Europeans to spell out U.S. role

Hispanics' wealth, poverty pictured

Danger lurks in hunting field

INSIDE





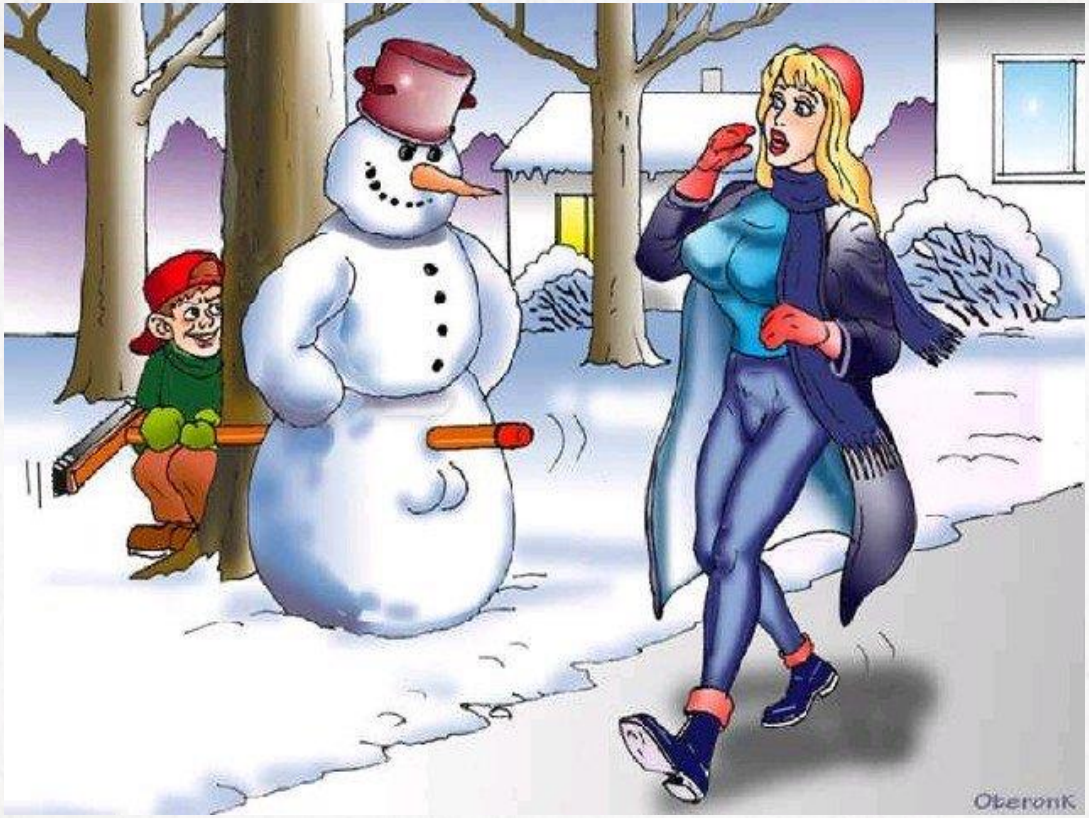
Buďte aspoň zodpovední sami k sebe.
Tým zabránite šíreniu HIV infekcie

CULTURE

Magic Johnson: 20 Years of Living With HIV

BY ALLISON SAMUELS 5/15/11 AT 1:00 AM

MAGIC JOHNSON 2017


OberonK

ROZLOŽENIE OBSAHU

MEDI PARK KOŠICE

UPJŠ, MULTIDISCIPLINARITA, HIV

KTORÉ PRACOVISKO UPJŠ POKLADALI PACIENTI S HIV ZA NAJZAUJÍMAVEJŠIE?

UNIVERZITA PAVLA JOZEFA ŠAFÁRIKA V KOŠICIACH

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MEDI PARK KOŠICE

ZADAJTE TEXT