Gli INR: quale gestione clinica?

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Fondazione IRCCS
San Gerardo dei Tintori

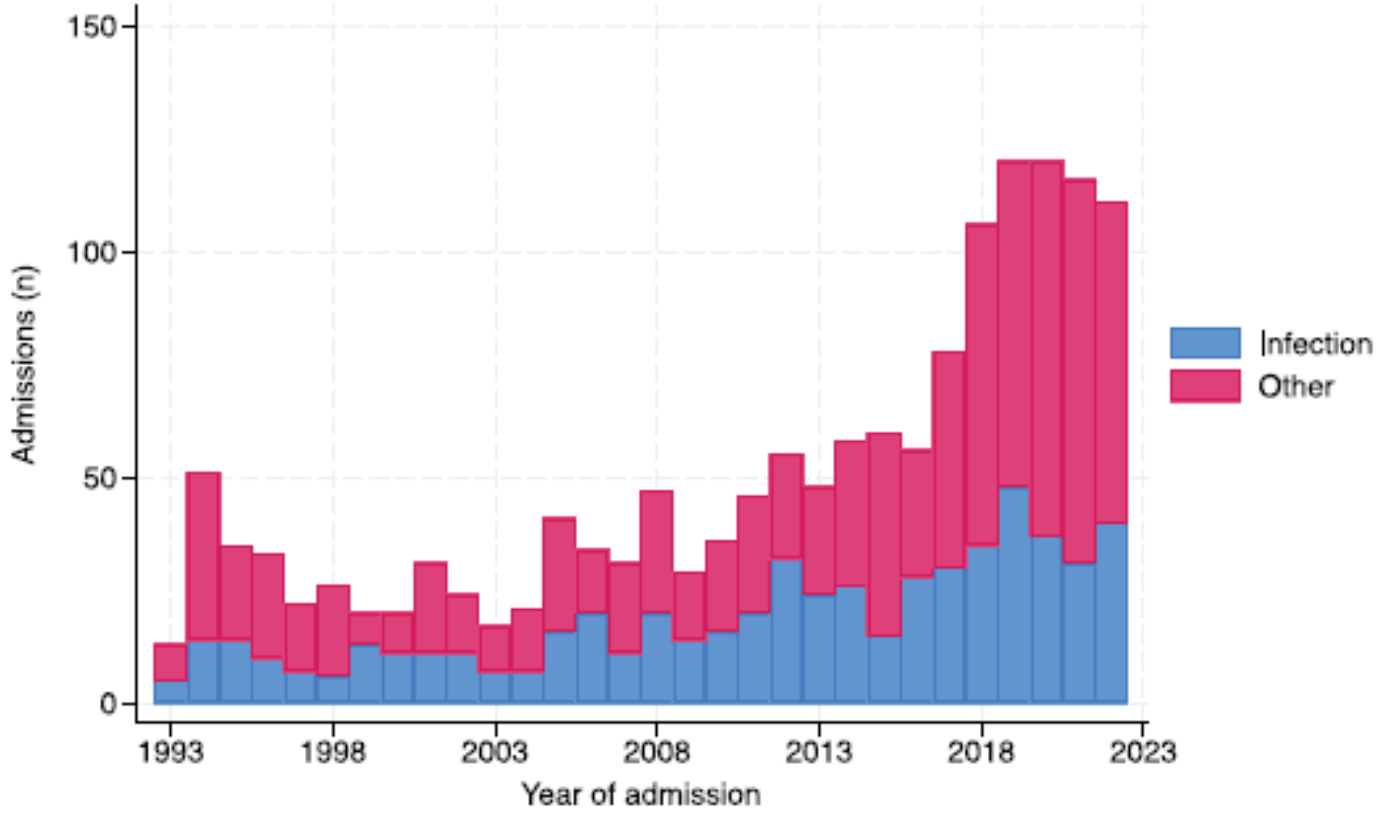
Obiettivi

DATI EPIDEMIOLOGICI

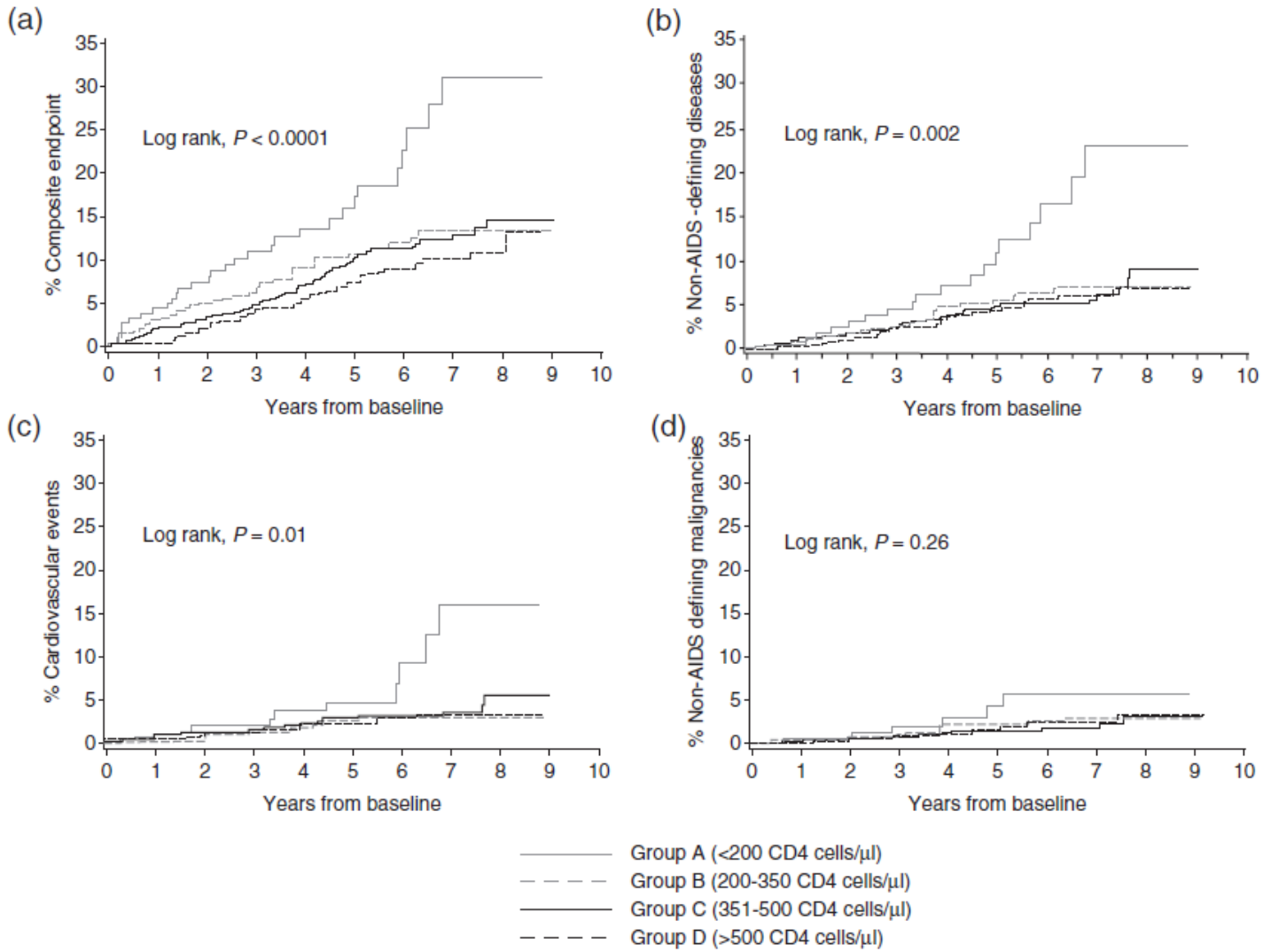
ASSOCIAZIONE CON COMORBIDITÀ

SUGGERIMENTI DI SCREENING

Epidemiologia

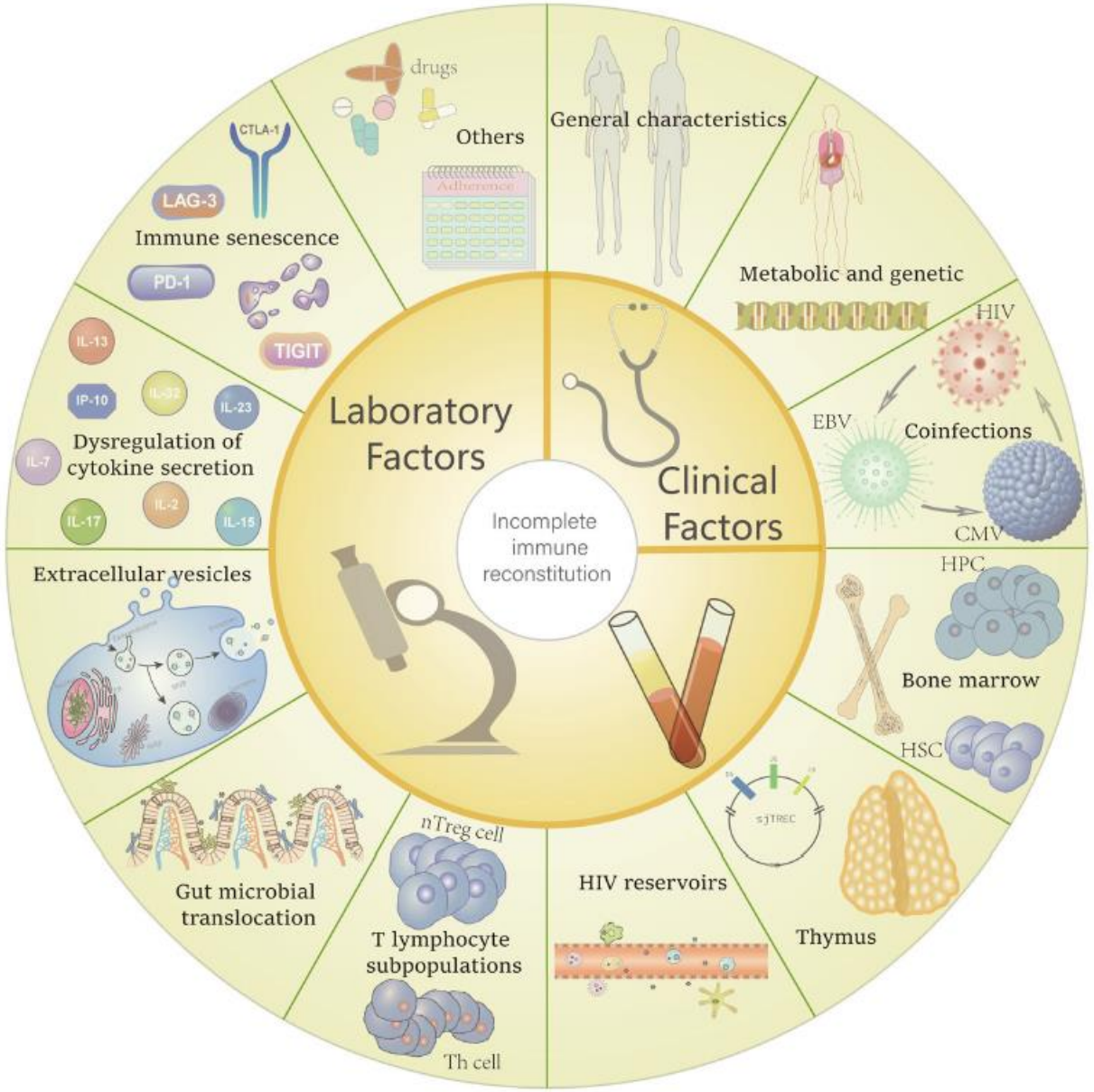


Tan B, Webster H, Krishnaswamy S, MacPhail A, Pilcher D. Outcomes of critical illness in peoples with Advanced HIV Disease: 30 years of binational data. *Clin Infect Dis*. Published online July 4, 2025. doi:10.1093/cid/ciaf362



van Lelyveld, et al. Long-term complications in patients with poor immunological recovery despite virological successful HAART in Dutch ATHENA cohort. AIDS 2012: 26(4):p 465-474,

Associazione con comorbidità Patogenesi



Zhang W, Ruan L. *Front Microbiol*. 2023;14:1236460

Prevaleat II

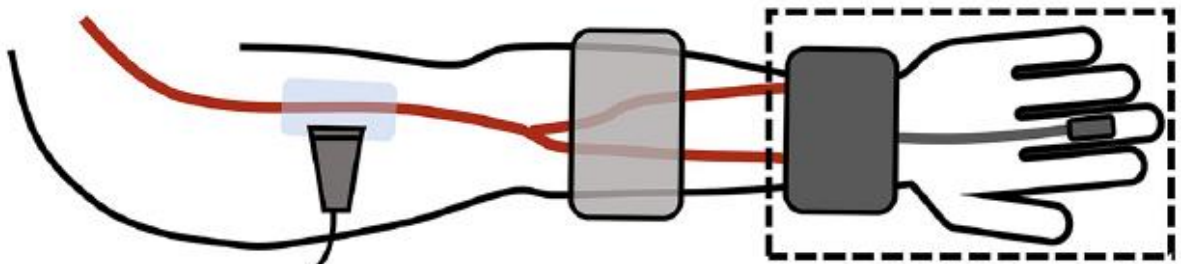
Baseline characteristics of 119 patients: treatment groups and overall population.

	EFV N = 31	ATV/R N = 49	DRV/R N = 39	Total N = 119	*p*
IMT and/or plaques (n, %)					
Pathologic D-dimer >500 (n, %)					
Pathologic hsCRP >300 (n, %)					
IL6 (median, IQR)					
Hs-RCP (median, IQR)					
D-dimer (median, IQR)					
ICAM (mean, SD)					
VCAM (mean, SD)					
FMD (mean, SD)					

ICAM and VCAM tended to increase over time ($p < 0.02$ and 0.01 respectively), and more markedly in patients presenting with AIDS (ICAM: 16500 to 17600 in non-AIDS presenters vs. 17800 to 22240 in AIDS presenters; VCAM: 17500 to 17700 in non-AIDS presenters vs. 20000 to 21600in AIDS presenters).

Maggi P, Bellacosa C, Leone A, et al. *Atherosclerosis*. 2017;263:398-404.

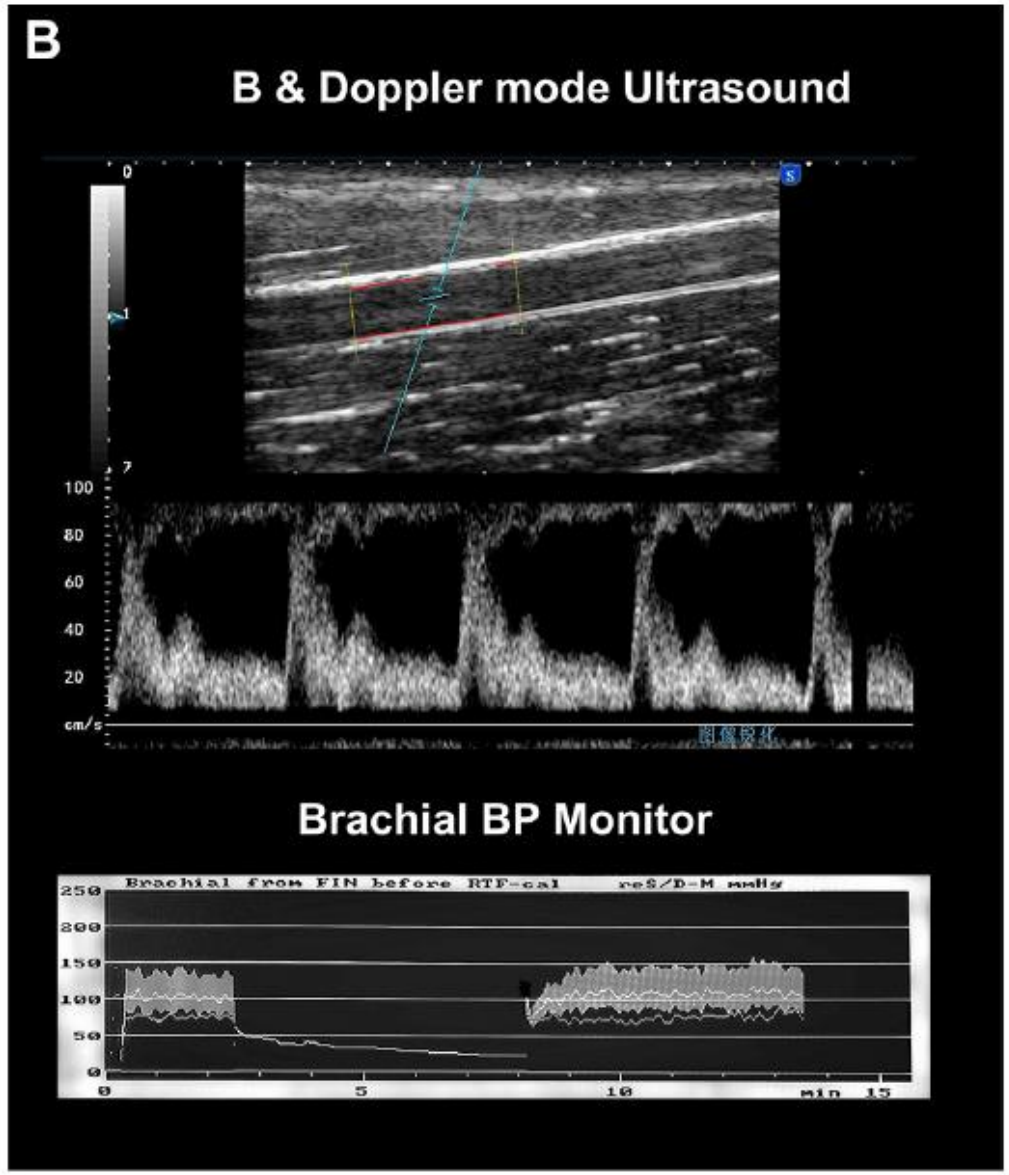
A



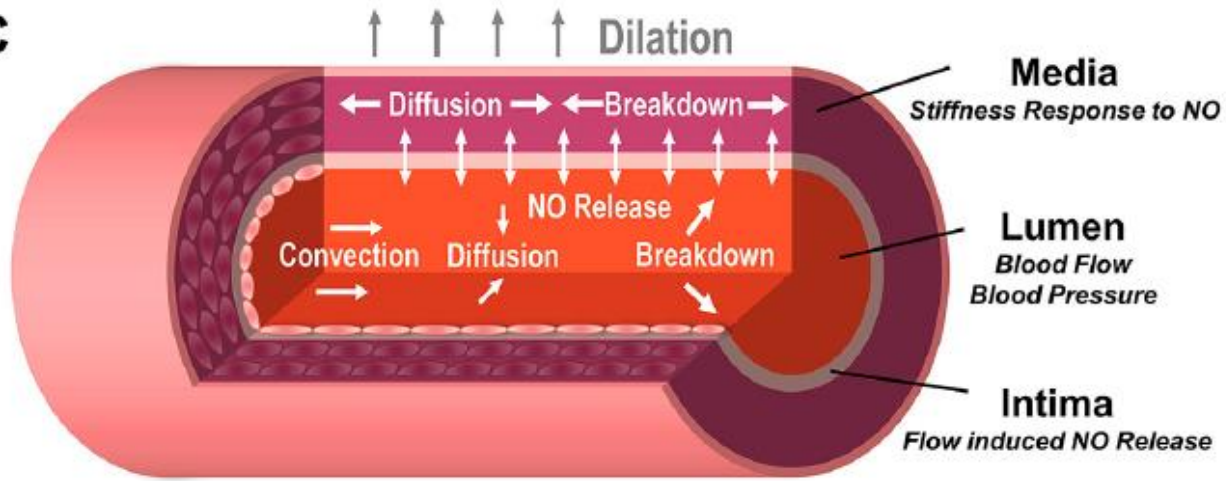
Pre-inflation → **Inflated for 5min** → **Post-deflation**

Physiology *Q↓ NO↓ P↓ d↓* *Q↑ NO↑ P↑ d↑*

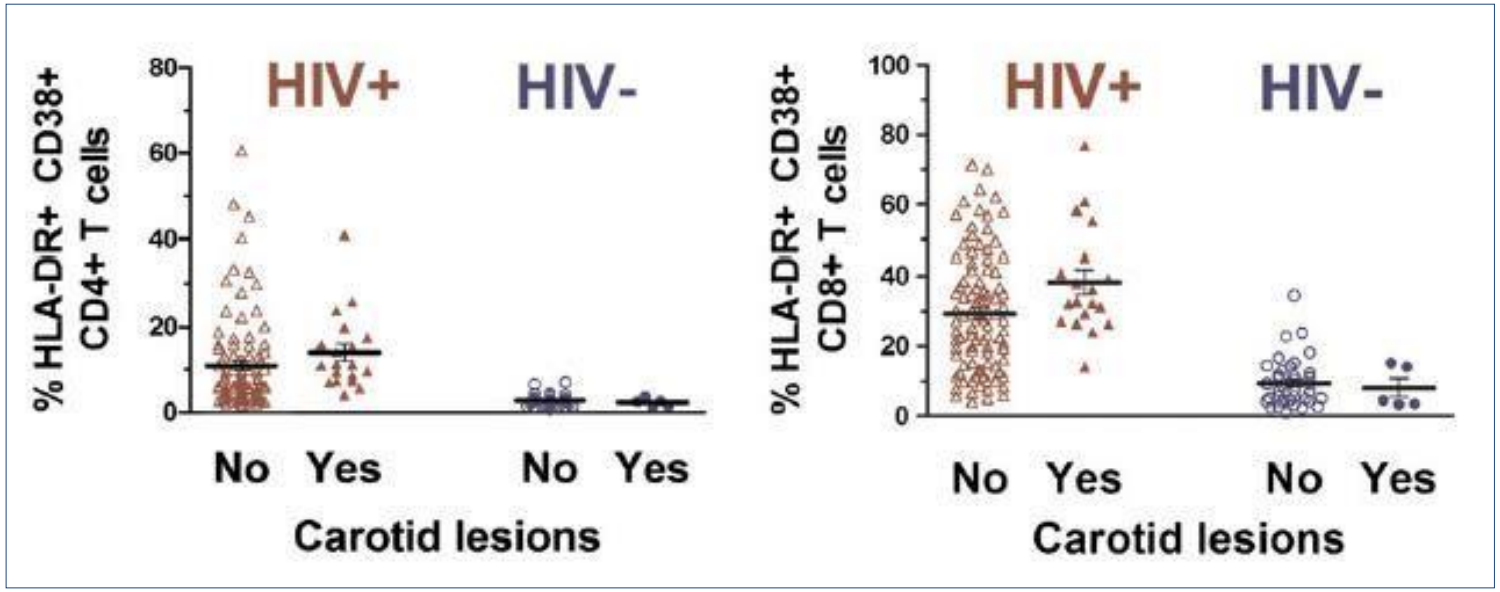
B



C

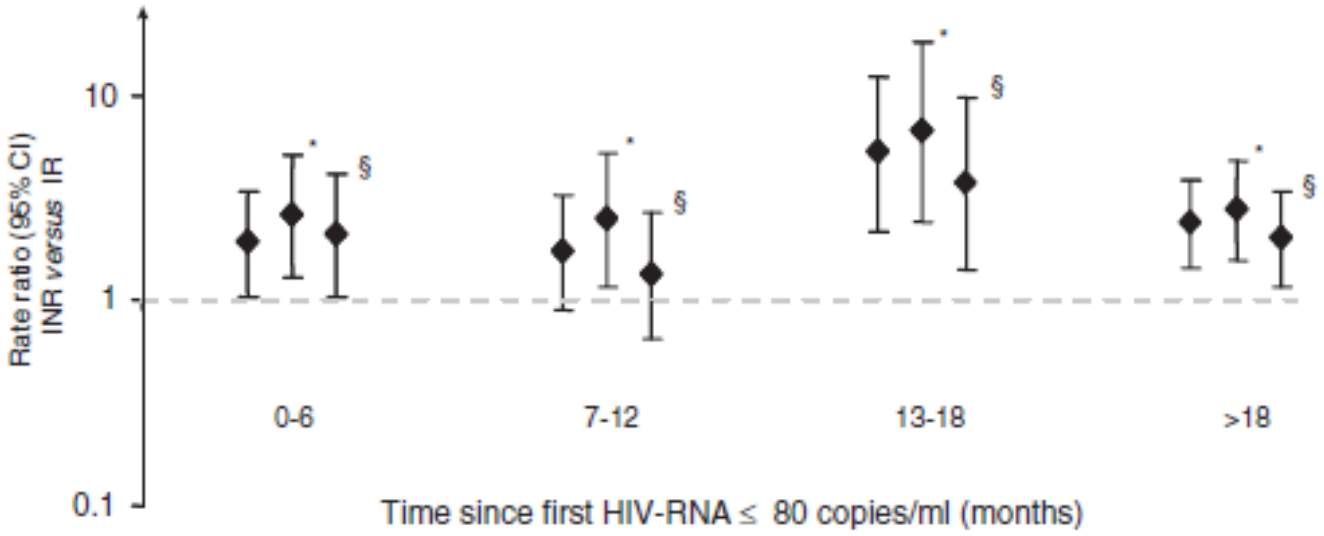


IMT E IMMUNOATTIVAZIONE



Kaplan RC, Sinclair E, Landay AL, et al. T cell activation and senescence predict subclinical carotid artery disease in HIV-infected women. *J Infect Dis*. 2011;203(4):452-463.

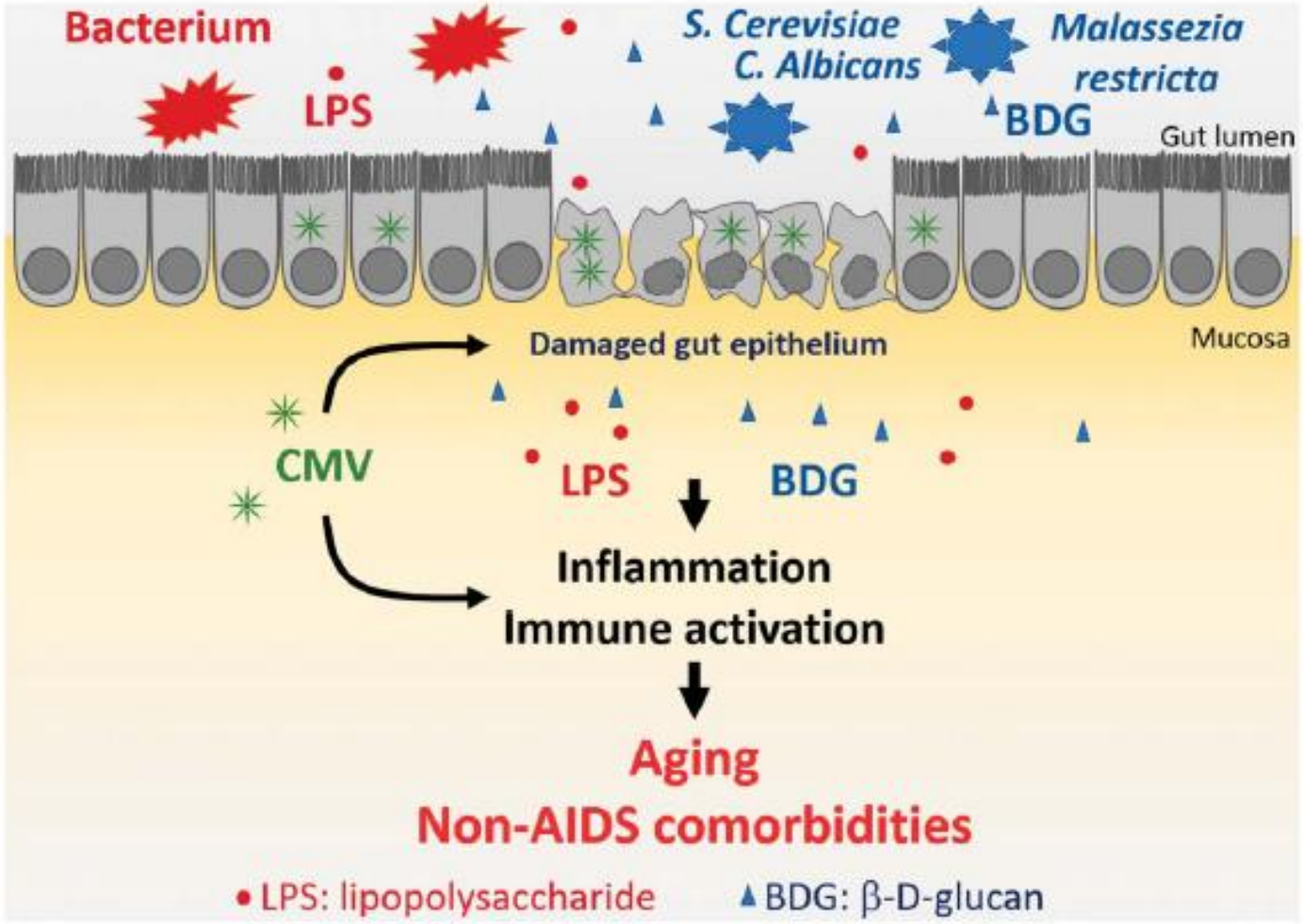
Death for any causes, occurrence of AIDS-related opportunistic infection or neoplasm



Among immunological responders rates decreased from 2.7 (95% CI 1.87–3.88) 0–6 months after achieving viral suppression to 1.6 (95% CI 1.28–1.92) after more than 18 months of viral suppression. Similarly, among INR rates after 0–6 and more than 18 months of viral suppression were 5.02 (95% CI 3.12–8.07) and 3.66 (95%

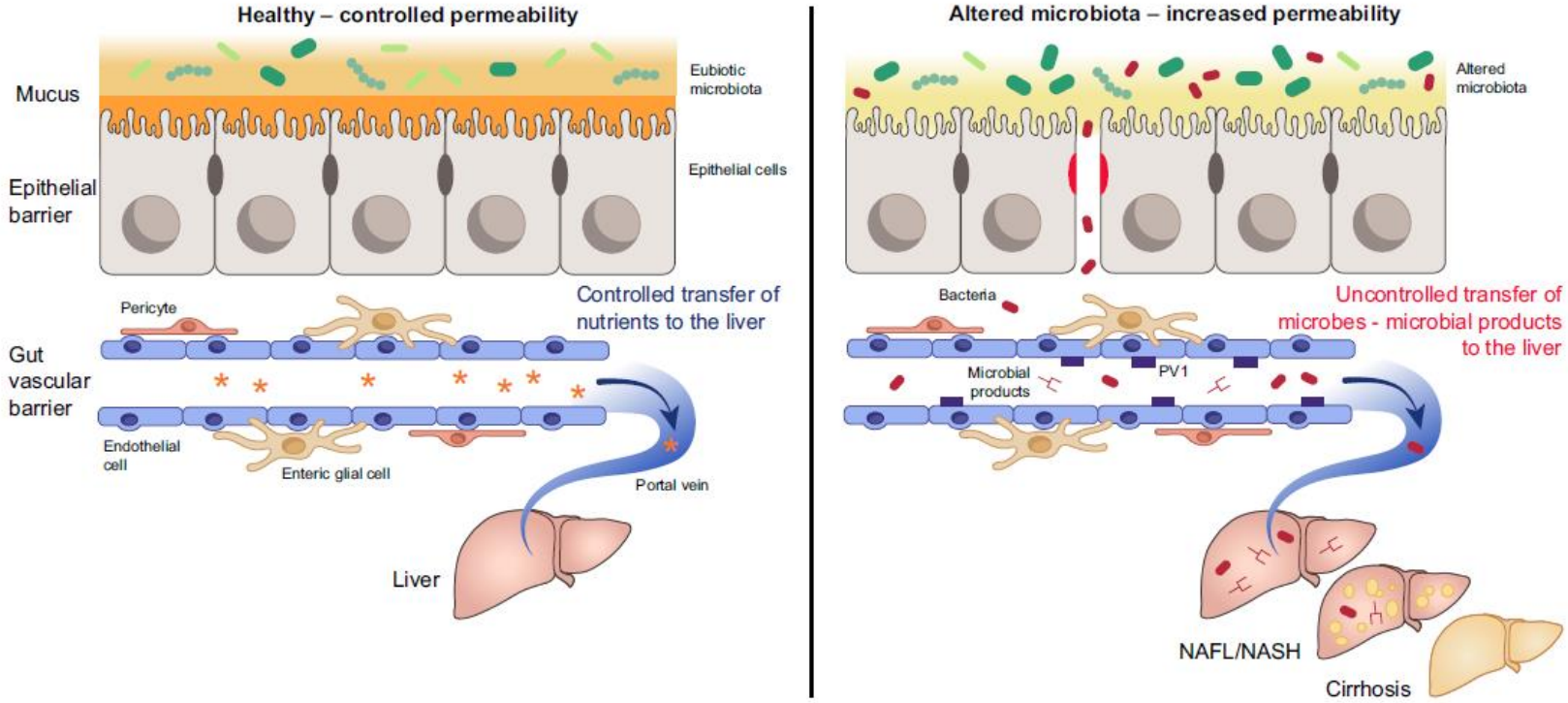
Lapadula G, Cozzi-Lepri A, Marchetti G, et al. *AIDS*. 2013;27(5):769-779.

Microbial translocation



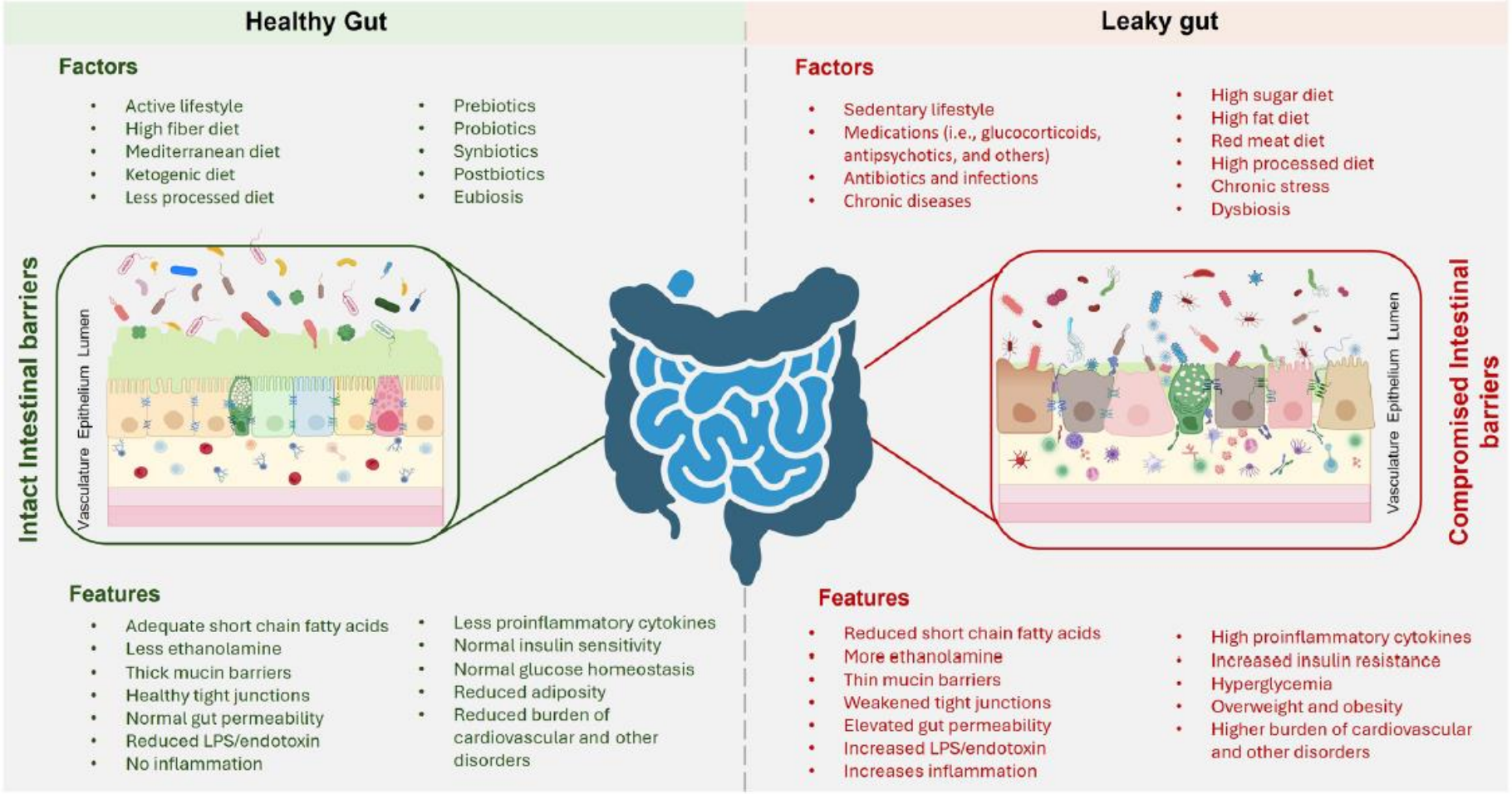
Routy JP, Royston L, Isnard S. Aging With Grace for People Living With HIV: Strategies to Overcome Leaky Gut and Cytomegalovirus Coinfection. *J Acquir Immune Defic Syndr*. 2022;89(Suppl 1):S29-S33.

Gut-liver axis. Steatosis/fibrosis risk



Albillos A, de Gottardi A, Rescigno M. The gut-liver axis in liver disease: Pathophysiological basis for therapy. *J Hepatol*. 2020;72(3):558-577.

LEAKY GUT AND COMORBIDITIES



Mishra S, Jain S, Agadzi B, Yadav H.. *Curr Obes Rep*. 2025;14(1):32.v

Ematopoiesi clonale

The Journal of Infectious Diseases

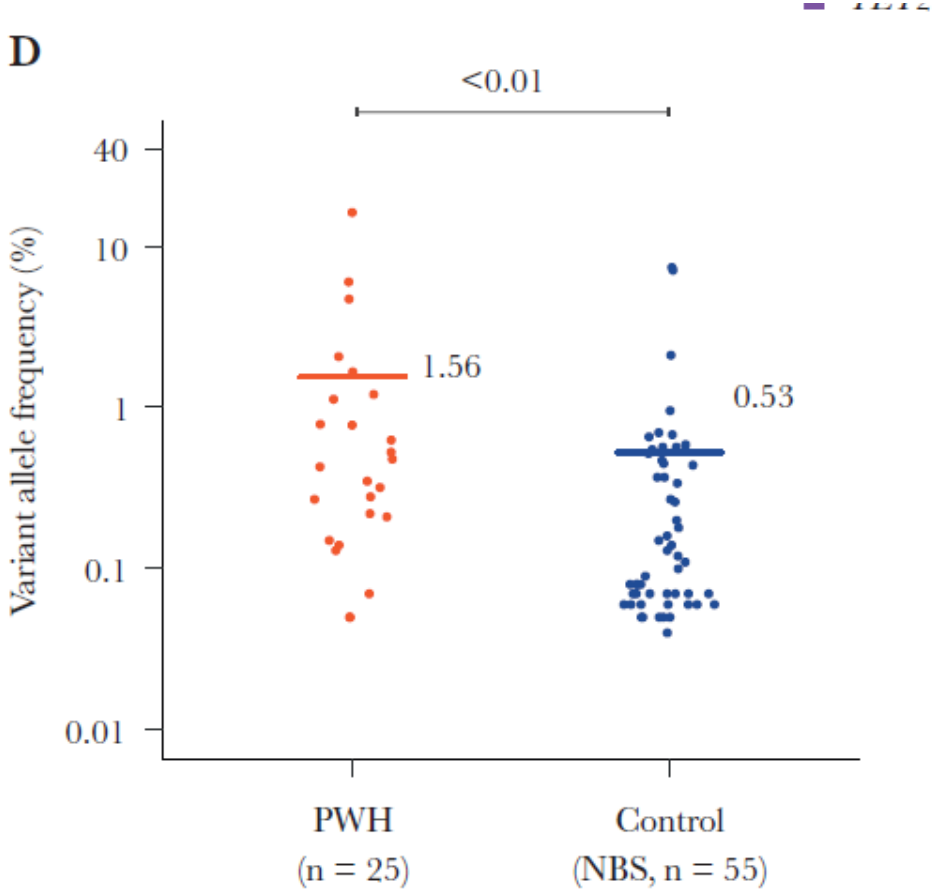
MAJOR ARTICLE

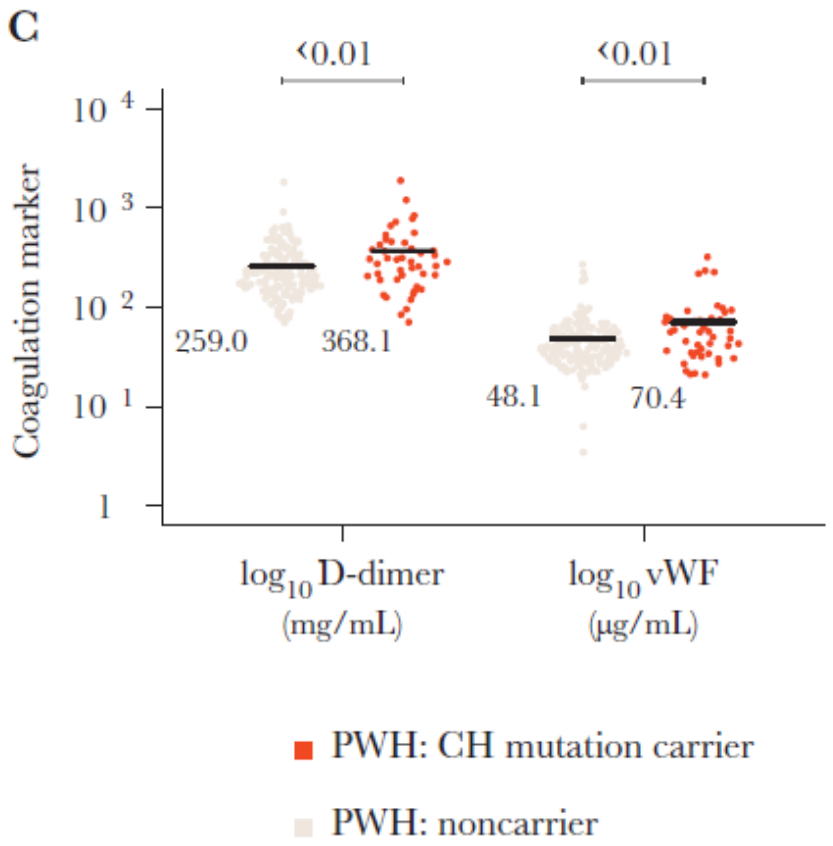
Clonal Hematopoiesis Is Associated With Low CD4 Nadir and Increased Residual HIV Transcriptional Activity in Virally Suppressed Individuals With HIV

Wouter A. van der Heijden,[1,2,a] Rosanne C. van Deuren,[1,3,4,a] Lisa van de Wijer,[1,2] Inge C. L. van den Munckhof,[1,3] Marloes Steehouwer,[3,4] Niels P. Riksen,[1,3] Mihai G. Netea,[1,3,5] Quirijn de Mast,[1,2] Linos Vandekerckhove,[6] Richarda M. de Voer,[3,4] Andre J. van der Ven,[1,2] and Alexander Hoischen[1,3,4]

The Journal of Infectious Diseases® 2022;225:1339–47

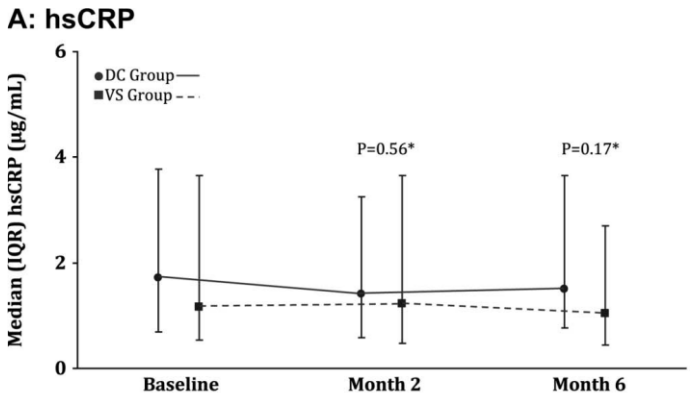
Ematopoiesi clonale in HIV

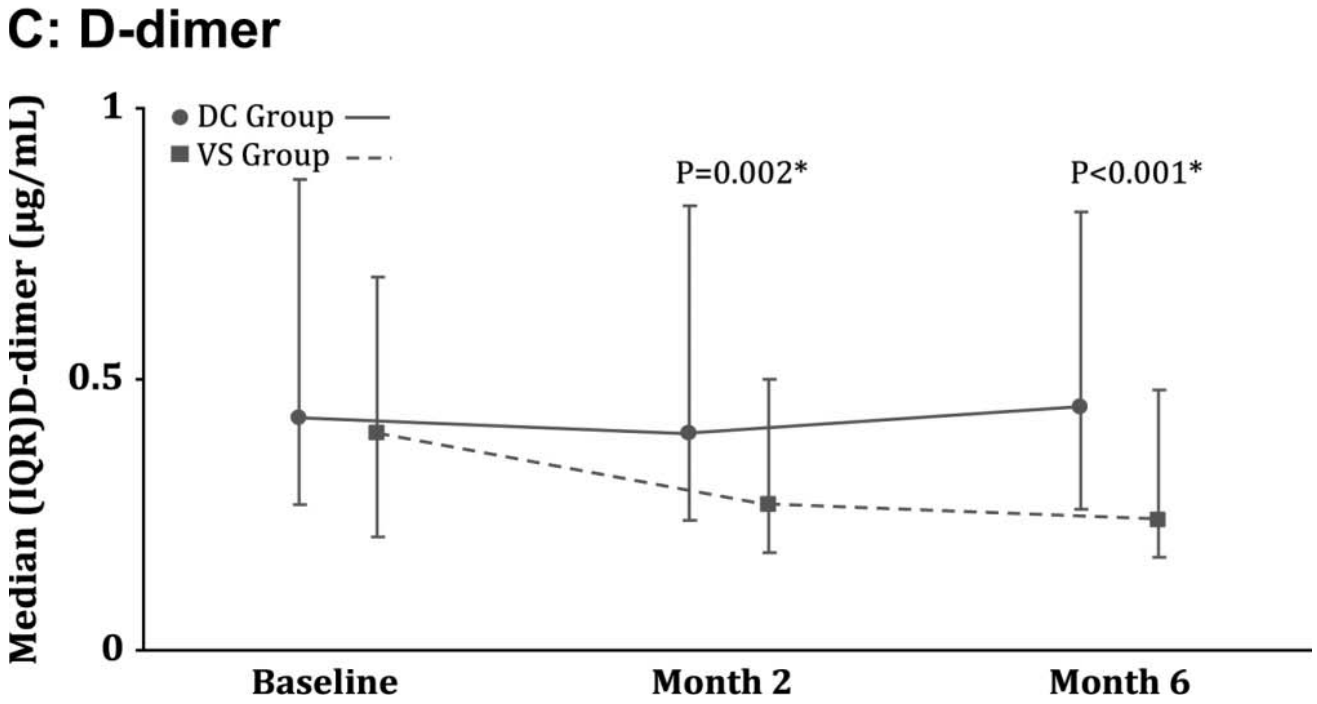




The Journal of Infectious Diseases® 2022;225:1339–47

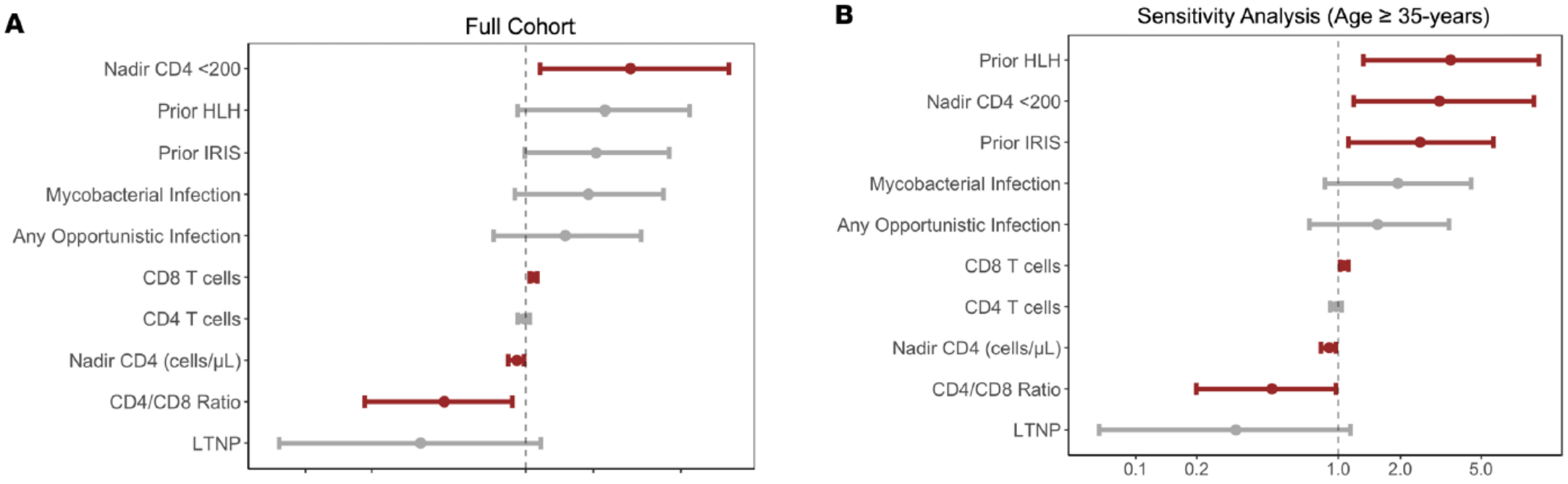
Inflammation /Insight Study





Baker JV, Neuhaus J, Duprez D, et al. Changes in inflammatory and coagulation biomarkers: a randomized comparison of immediate versus deferred antiretroviral therapy in patients with HIV infection. *J Acquir Immune Defic Syndr*. 2011;56(1):36-43

Ematopoiesi clonale in HIV



Rocco JM, Zhou Y, Liu NS, et al. *JCI Insight*. 2024;9(9):e174783. Published 2024 Apr 2. doi:10.1172/jci.insight.174783

Ematopoiesi clonale e rischio cardiovascolare

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JULY 13, 2017 VOL. 377 NO. 2

Clonal Hematopoiesis and Risk of Atherosclerotic Cardiovascular Disease

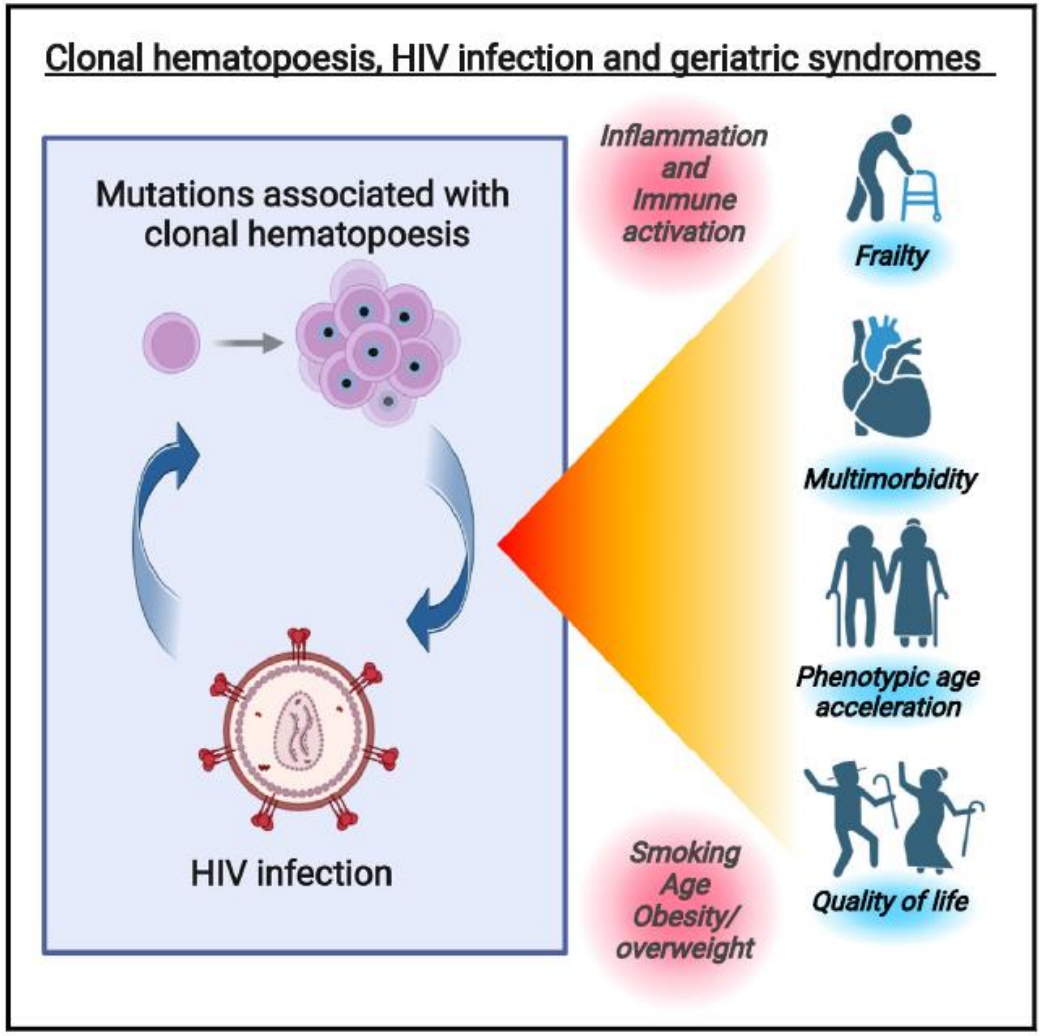
S. Jaiswal, P. Natarajan, A.J. Silver, C.J. Gibson, A.G. Bick, E. Shvartz, M. McConkey, N. Gupta, S. Gabriel, D. Ardissino, U. Baber, R. Mehran, V. Fuster, J. Danesh, P. Frossard, D. Saleheen, O. Melander, G.K. Sukhova, D. Neuberg, P. Libby, S. Kathiresan, and B.L. Ebert

A CHIP and Coronary Heart Disease

Subgroup	No. of Participants with Coronary Heart Disease/ No. at Risk	Hazard Ratio (95% CI)	P Value
BioImage			
No mutation (reference)	94/326		
Mutation	19/44	1.8 (1.1–2.9)	0.03
MDC			
No mutation (reference)	299/607		
Mutation	21/33	2.0 (1.2–3.1)	0.003
Fixed-effects meta-analysis		**1.9 (1.4–2.7)**	**<0.001**

B CHIP and Early-Onset Myocardial Infarction

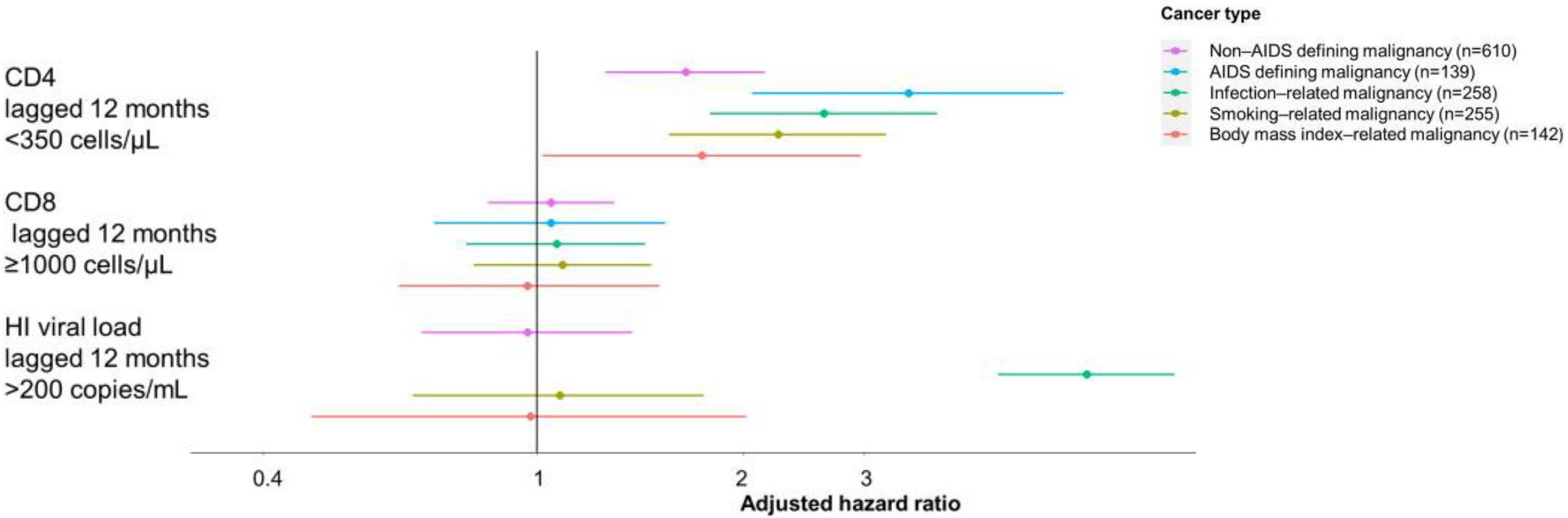
Subgroup	No. of Participants with Myocardial Infarction/ No. at Risk	Odds Ratio (95% CI)	P Value
ATVB			
No mutation (reference)	1716/3293		
Mutation	37/43	5.4 (2.3–13.0)	<0.001
PROMIS			
No mutation (reference)	2488/3844		
Mutation	52/65	3.4 (1.8–6.5)	<0.001
Fixed-effects meta-analysis		**4.0 (2.4–6.7)**	**<0.001**



CH is independently associated with being frail (vs. pre-frail/robust; odds ratio 2.38, 95% CI 1.01, 5.67)
and with having reduced quality of life (coefficient 2.18, 95% CI 3.92, 0.44).
Our findings suggest that HIV is associated with increased biological age and that CH may be used as a biomarker for adverse geriatric outcomes.

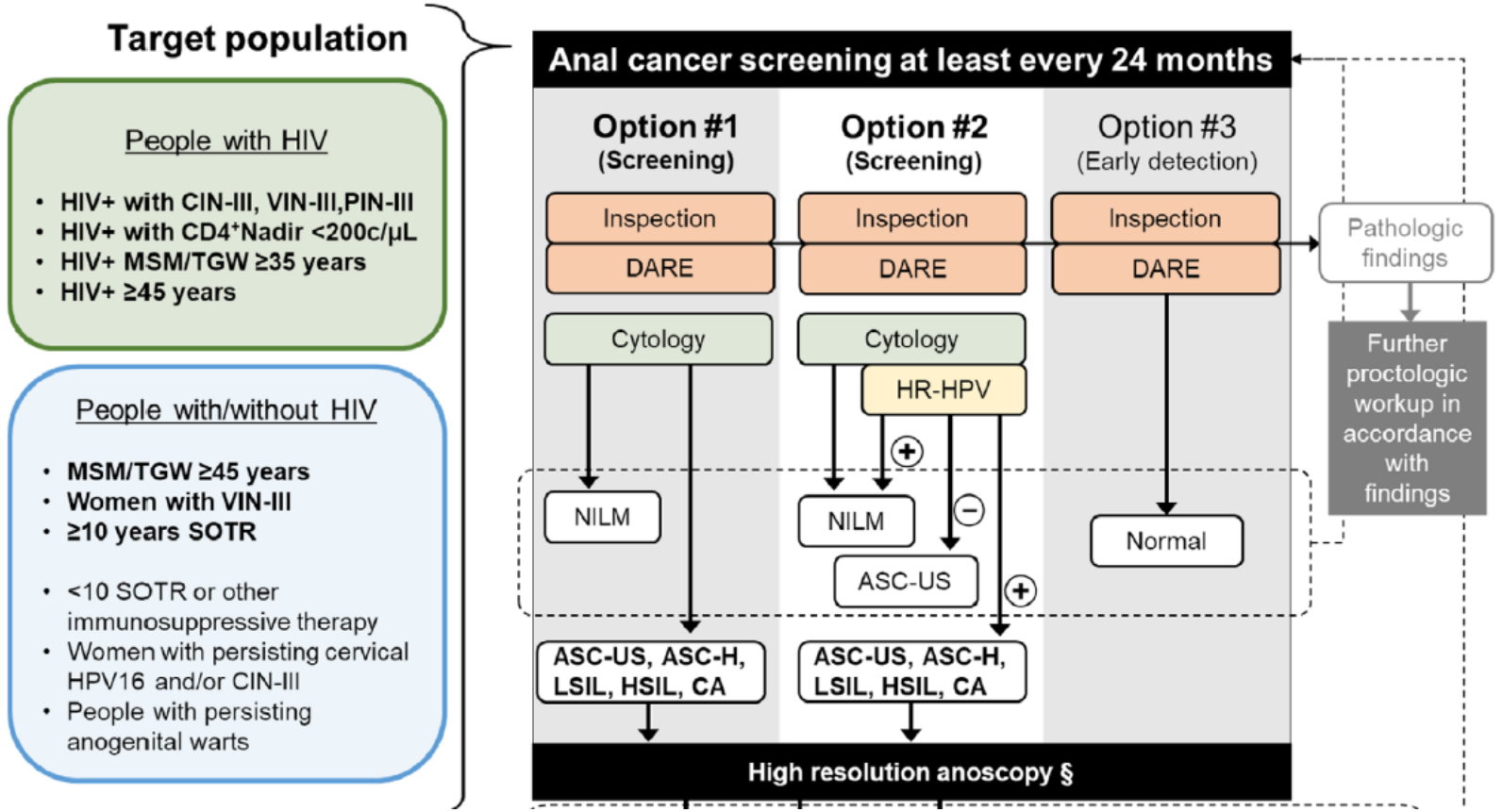
Han WM, Sazzad HMS, Bloch M, et al. *Cell Rep Med*. 2024;5(12):101835. doi:10.1016/j.xcrm.2024.101835

Tumori



Chammartin F, Mocroft A, Egle A, et al. Measures of Longitudinal Immune Dysfunction and Risk of AIDS and Non-AIDS Defining Malignancies in Antiretroviral-Treated People With Human Immunodeficiency Virus. *Clin Infect Dis*. 2024;78(4):995-1004. doi:10.1093/cid/ciad671

Carcinoma anale



Chromy D, Aigner F, Becker JC, et al. German-Austrian guideline on screening for anal dysplasia and anal carcinoma in people living with HIV. *J Dtsch Dermatol Ges*. 2025;23(8):1025-1040.

Suggerimenti per screening e interventi terapeutici precoci

Inizio precoce della statina (dai 40 anni indipendentemente dal rischio CVD calcolato)

Screening periodico per IMT (utile FMD)

Screening per:

- steatosi (se presente Fibroscan)
- fenotipo FRAILTY
- Tumori (abolizione del fumo)

GRAZIE!