



HIV Cure in the news

The San Francisco and Esperanza patients

Gabriela Turk



Affiliated Independent Event



I have no relevant financial relationships with ineligible companies to disclose.



Loreen Willenberg (The San Francisco Patient)

Mendoza et al. DOI 10.1182/blood-2011-10-381996

Jiang et al. DOI 10.1038/s41586-020-2651-8

The “Esperanza” Patient

Turk et al. DOI 10.7326/L21-0297

- **Elite Controllers** -
 - Female -
 - Weak/incomplete ab response -
 - No ART -
 - High CD4 -
 - CCR5 WT -
- Low frequency of HIV-specific CD8TCs -



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68 years old. Diagnosed at 38 (1992)

30-year follow-up

Only 1 detectable VL (93 copies/plasma ml) within a total of 39 tests performed (up to Jan-2020)

HLA B*5701



The “Esperanza” Patient

Turk et al. DOI 10.7326/L21-0297

32 years old. Diagnosed at 23 (2013)

9-year follow-up

No detectable VL ever (14 tests up to Apr-2022)

No protective HLA



- Elite Controllers -

- Female -
- Weak/incomplete ab response -
- No ART -
- High CD4 -
- CCR5 WT -
- Low frequency of HIV-specific CD8TCs -

A Possible Sterilizing Cure of HIV-1 Infection Without Stem Cell Transplantation

Turk, Seiger, Laufer, Yu et al. Ann Intern Med. doi:10.7326/L21-0297

Date	ELISA	WB result
2011	Negative	Not done
03/2013	Positive	gp160/gp120/p24
05/2013	Positive	gp160/gp120/p24
09/2013	Positive	gp160/gp120/p24
03/2014	Positive	gp160/gp120/p24
09/2016	Positive	gp160/gp120/gp41
04/2017	Positive	gp160
10/2017	Positive	gp160/gp120/p24
09/2019	Positive	gp160/gp120/p24
08/2021	Positive	gp160/gp120/p24
01/2022	Positive	gp41/p24

Former partner (probable source of infection)

HIV diagnosis: February 2013

Laboratory April 2013: CD3 1208 cells/ μ l (80%),
CD4 196 cells/ μ l (13%), CD4/CD8 ratio: 0.22.

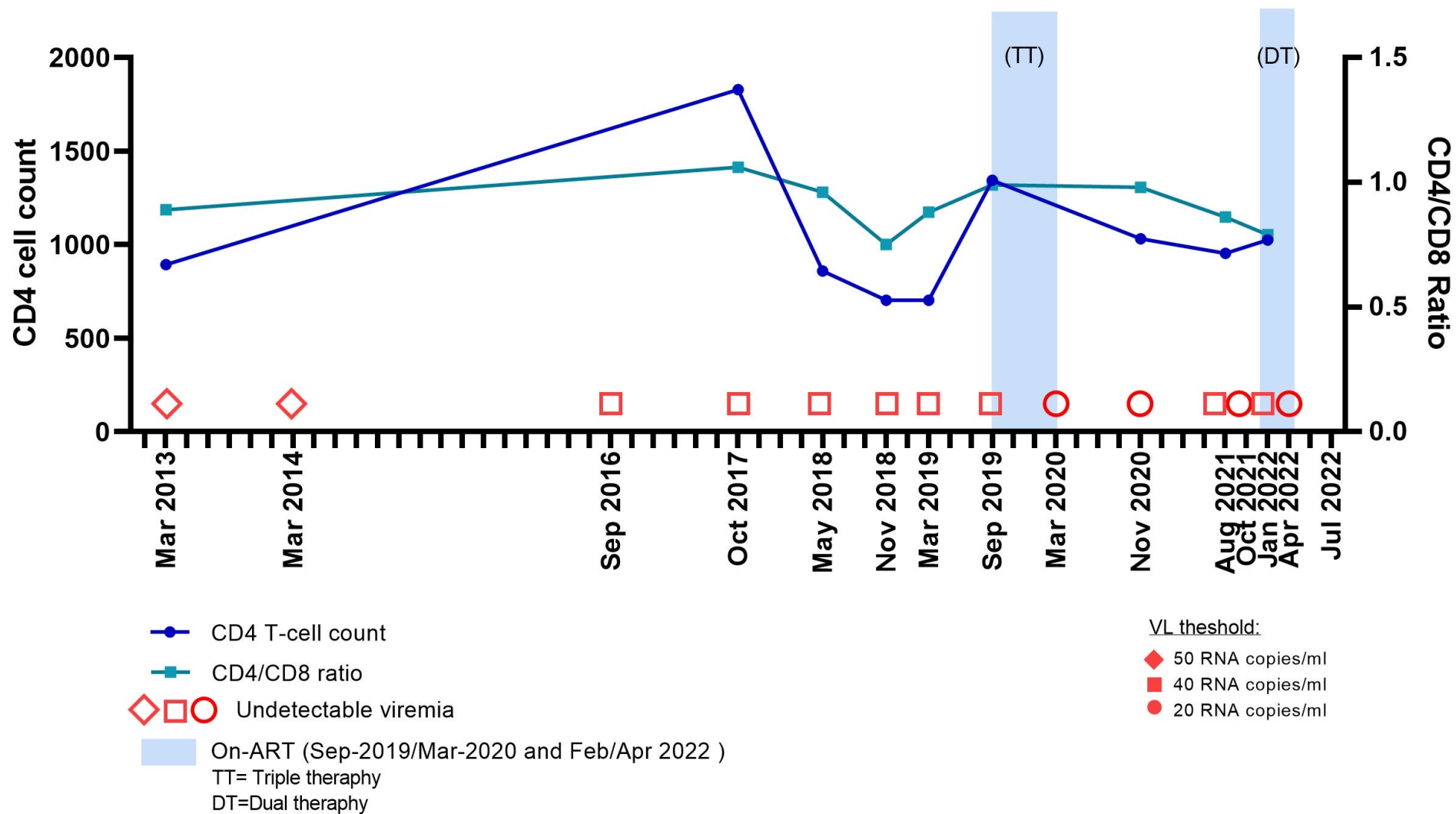
VL=186.000 copies/ml (5.2 log₁₀).

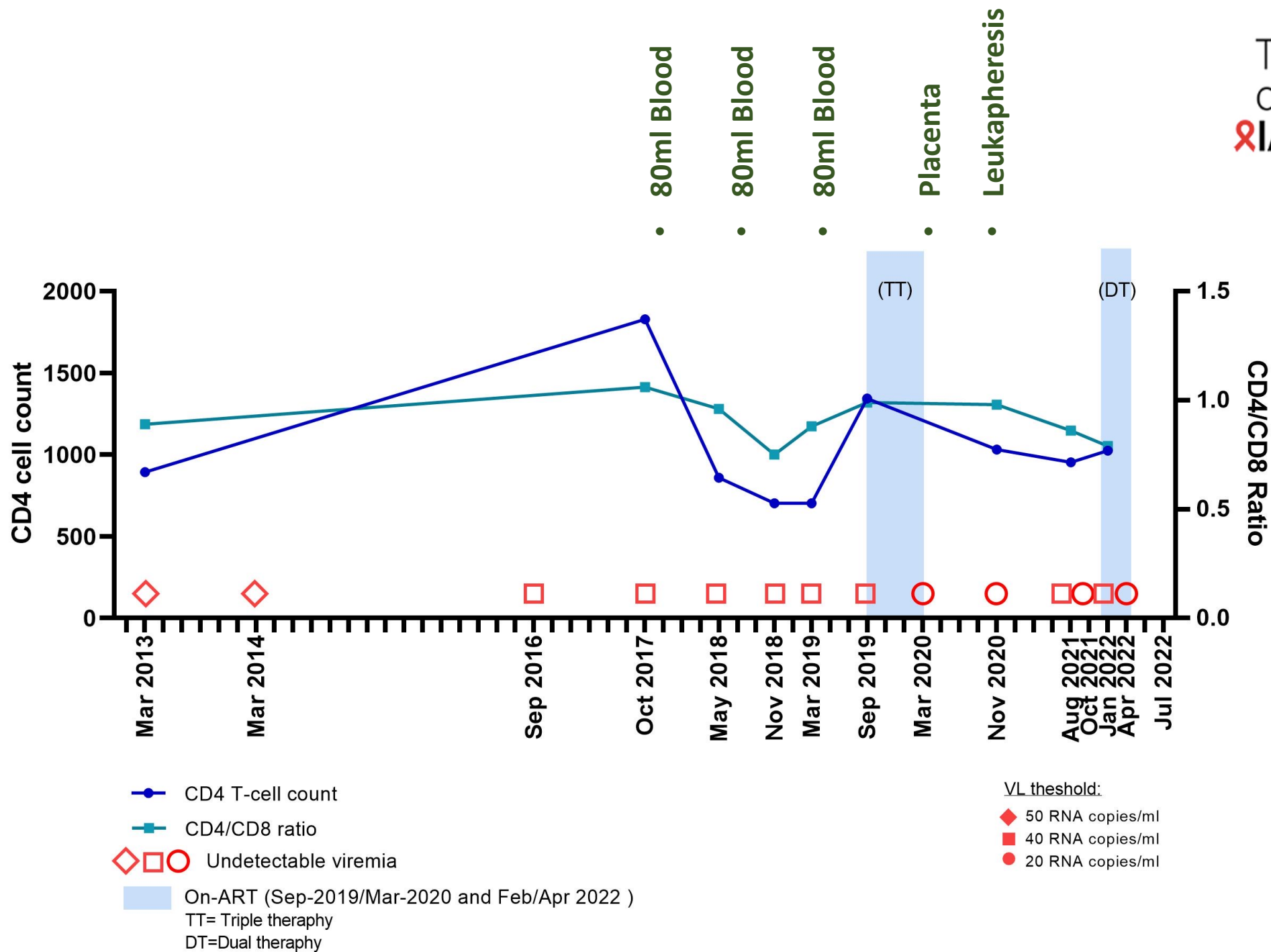
Started ART but abandoned later.

Died on July 2017 due to an AIDS related event.

Current partner remains HIV negative.

She had babies in 2020 and 2022.





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	Ultracentrifuge plasma RNA	
	qPCR CA DNA and/or RNA PBMCs	
	qPCR CA DNA and/or RNA GALT	
	Replication competent virus assay (HIC, qVOA)	
	IPDA	
	FLIP-seq PBMCs	
	FLIP-seq Tissue	

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Less than 1 copy/ml

Ultracentrifuge plasma RNA

qPCR CA DNA and/or RNA
PBMCs

qPCR CA DNA and/or RNA
GALT

Replication competent
virus assay (HIC, qVOA)

IPDA

FLIP-seq PBMCs

FLIP-seq Tissue

The “Esperanza” Patient

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Less than 0.2 copy/ml

Loreen Willenberg (The San Francisco Patient)

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Jiang et al. DOI 10.1038/s41586-020-2651-8

Less than 1 copy/ml
Undetectable
Undetectable*

Ultracentrifuge plasma RNA

qPCR CA DNA and/or RNA
PBMCs

qPCR CA DNA and/or RNA
GALT

Replication competent
virus assay (HIC, qVOA)

IPDA

FLIP-seq PBMCs

FLIP-seq Tissue

The “Esperanza” Patient

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Less than 0.2 copy/ml
Undetectable
Not done

Loreen Willenberg (The San Francisco Patient)

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Jiang et al. DOI 10.1038/s41586-020-2651-8

Less than 1 copy/ml
Undetectable
Undetectable*
Undetectable (HIC: 238M CD4TCs, qVOA: 340M resting CD4TCs)

Ultracentrifuge plasma RNA

qPCR CA DNA and/or RNA
PBMCs

qPCR CA DNA and/or RNA
GALT

Replication competent
virus assay (HIC, qVOA)

IPDA

FLIP-seq PBMCs

FLIP-seq Tissue

The “Esperanza” Patient

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Less than 0.2 copy/ml
Undetectable
Not done
Undetectable (qVOA: 150M CD4TCs)

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Less than 1 copy/ml
Undetectable
Undetectable*
Undetectable (HIC: 238M CD4TCs, qVOA: 340M resting CD4TCs)
No intact provirus/Few defective provirus (14M resting CD4TCs)

Ultracentrifuge plasma RNA

qPCR CA DNA and/or RNA
PBMCs

qPCR CA DNA and/or RNA
GALT

Replication competent
virus assay (HIC, qVOA)

IPDA

FLIP-seq PBMCs

FLIP-seq Tissue

The “Esperanza” Patient

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Less than 0.2 copy/ml
Undetectable
Not done
Undetectable (qVOA: 150M CD4TCs)
Not done

Loreen Willenberg (The San Francisco Patient)

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Jiang et al. DOI 10.1038/s41586-020-2651-8

Less than 1 copy/ml
Undetectable
Undetectable*
Undetectable (HIC: 238M CD4TCs, qVOA: 340M resting CD4TCs)
No intact provirus/Few defective provirus (14M resting CD4TCs)
No intact provirus/19 defective provirus (1.5 billion PBMCs)
No intact or defective provirus (7.72M cells GALT)

Ultracentrifuge plasma RNA

qPCR CA DNA and/or RNA PBMCs

qPCR CA DNA and/or RNA GALT

Replication competent virus assay (HIC, qVOA)

IPDA

FLIP-seq PBMCs

FLIP-seq Tissue

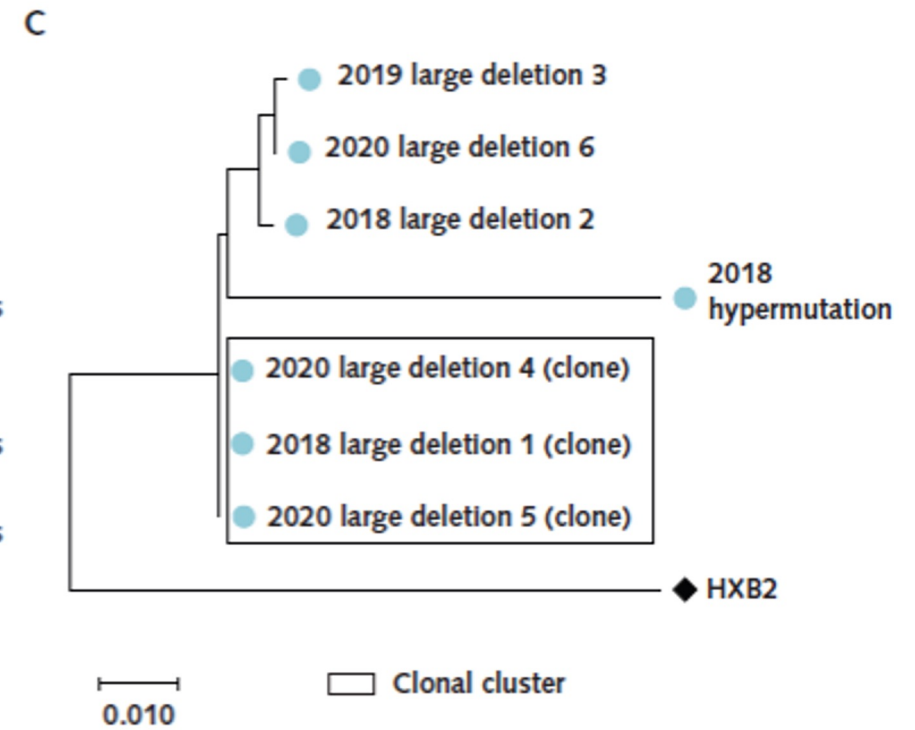
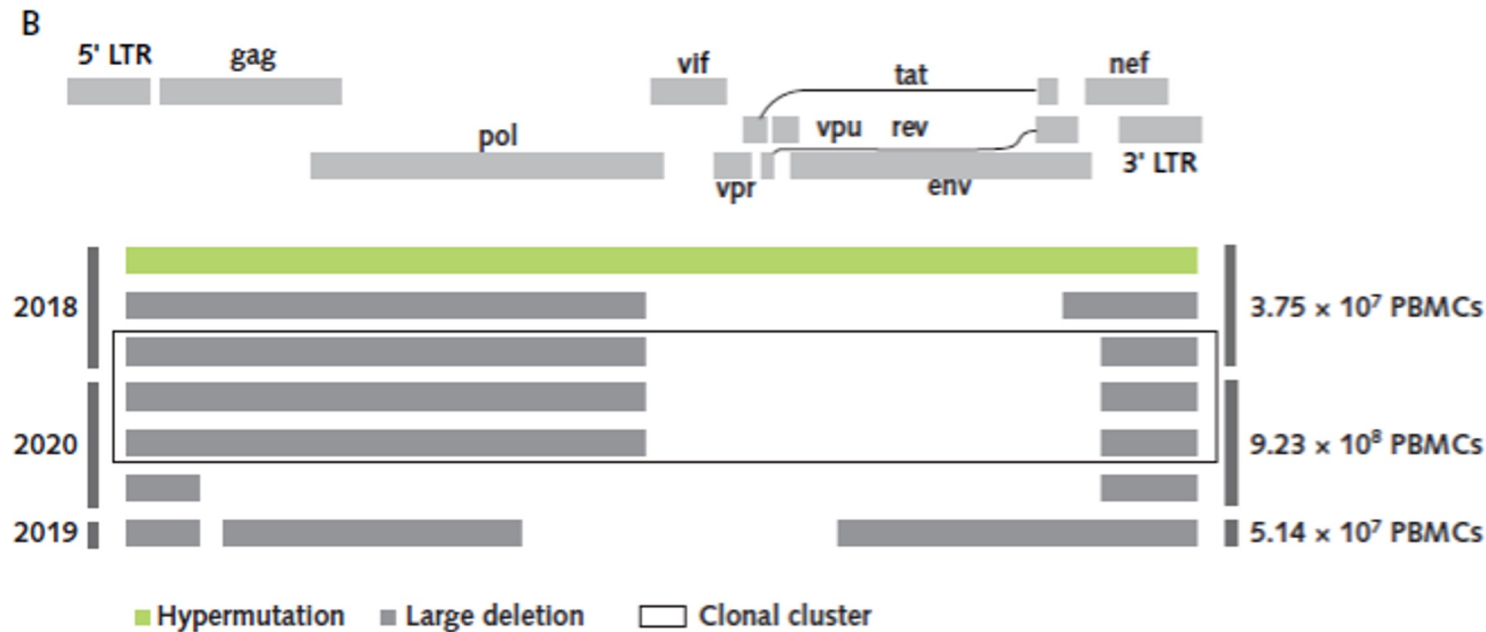
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Less than 0.2 copy/ml
Undetectable
Not done
Undetectable (qVOA: 150M CD4TCs)
Not done
No intact provirus/7 defective provirus (1.18 billion PBMCs)
No intact or defective provirus (503M cells from placenta)

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The San Francisco and the Esperanza patients
are persons who achieved extreme viral control where
researches failed to detect any intact or replication-
competent viruses, despite having done a
comprehensive analysis of a massive numbers of
cells and multiple complementary virologic
assays.



Affiliated Independent Event

Towards
an HIV Cure
IAS

thank you

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