



Vaccine Effects on HIV-1 Progression in the Step Study

Holly Janes

SCHARP/Fred Hutchinson Cancer Research Center

Study Team



Merck

Devan Mehrotra
Mike Robertson

SCHARP/FHCRC

Peter Gilbert
Liza Noonan
Alicia Sato
Janne Abullarde

UCSF

Susan Buchbinder

HVTN

Ann Duerr

GHESKIO

Dan Fitzgerald

Study Design



- 3000 HIV- participants randomized (1:1); received 3 injections of MRKAd5 HIV-1 gag/pol/nef vaccine or placebo
- Tested approximately every 6 months for infection
- 82 male MITT infections (33 placebo; 49 vaccine) adjudicated by October 17, 2007
 - Diagnosed between June, 2005 and August, 2007
 - 28 to 751 days after first vaccination (mean = 287 days)
 - 1 omitted from analysis due to ART prophylaxis
- Follow-up data as of September 26, 2008



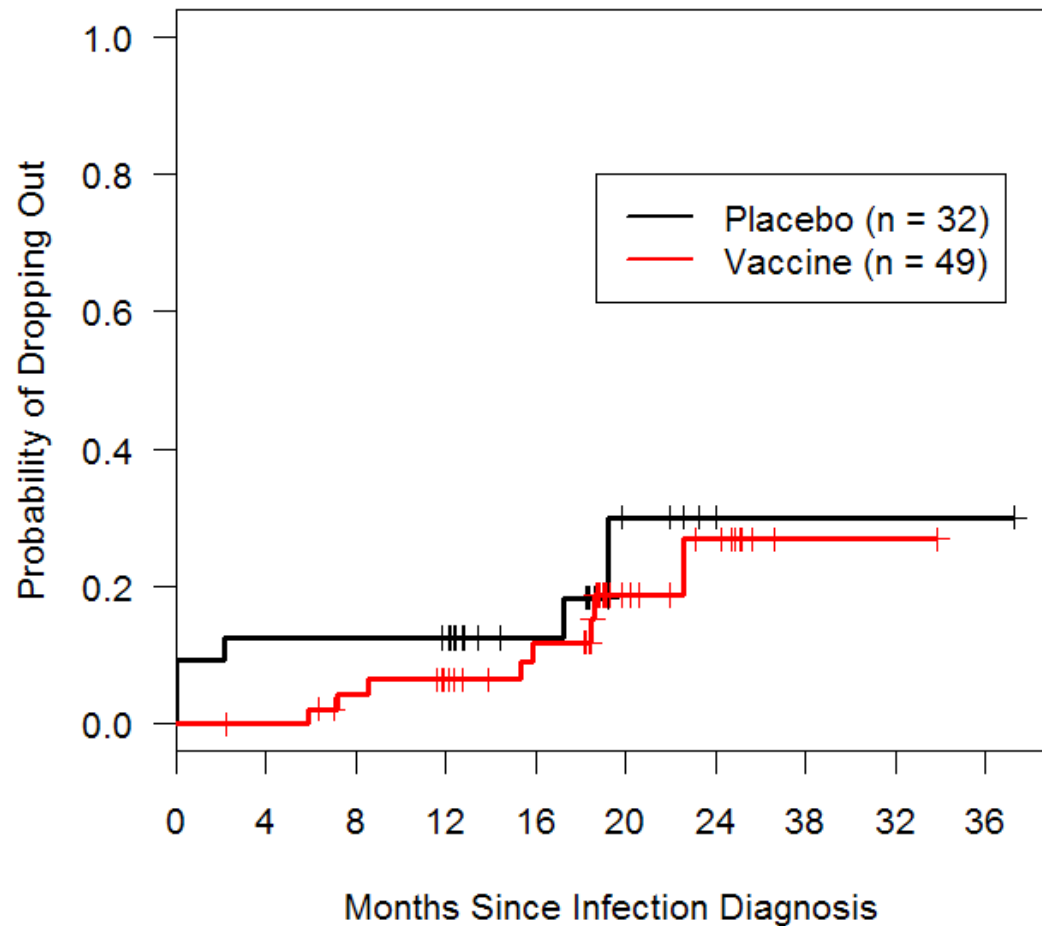
Baseline Characteristics of HIV Infected Participants

		Overall (n = 81)	Vaccinees (n = 49)	Placebos (n = 32)
Country (%)	<i>US</i>	75	71	81
	<i>Peru</i>	19	22	13
	<i>Canada</i>	5	4	6
	<i>Haiti</i>	1	2	0
Baseline Ad5 (%)	<i>> 18</i>	51	59	37
	<i>≤ 18</i>	49	41	63
Circumcised (%)	<i>Yes</i>	64	53	81
	<i>No</i>	33	44	16
	<i>Missing</i>	2	2	3
Ethnicity (%)	<i>White</i>	52	49	56
	<i>Mestizo</i>	19	22	13
	<i>Black</i>	12	10	16
	<i>Hispanic</i>	11	16	3
	<i>Multi-race</i>	1	0	3
	<i>Other</i>	5	2	9
Age (mean (SD))		31 (7)	31 (7)	30 (7)



No Difference Between Treatment Groups in Time to Study Dropout

- No difference in time to dropout between treatment groups ($p = 0.475$, log-rank)
- Estimated probability of dropping out by 1 year:
P: 13% (0-23%)
V: 6% (0-13%)





ART Initiation

25/81 participants initiated ART

- 9/32 placebos, 15/49 vaccinees
- 27 to 428 days after diagnosis (mean = 212 days)

19 satisfied US DHHS criteria for ART initiation

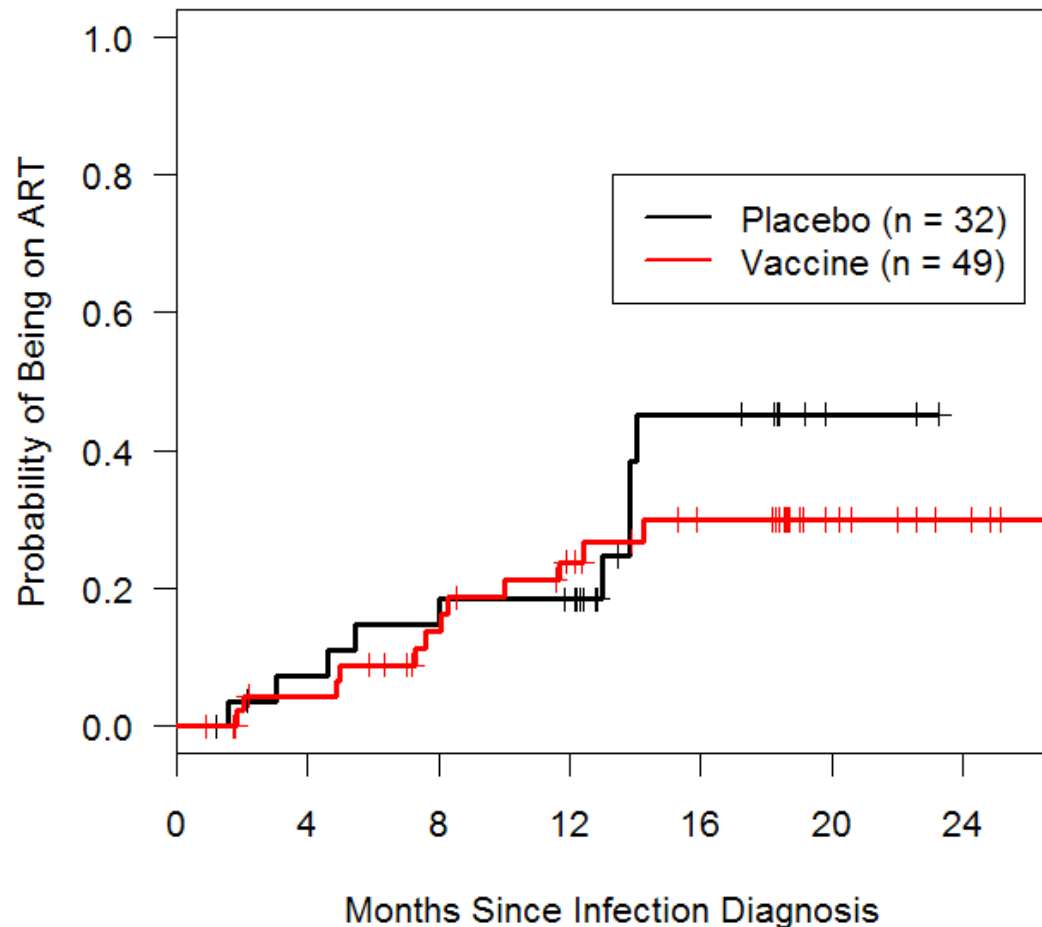
4 treated for acute HIV

2 unknown reasons



No Vaccine Effect on Time to ART Initiation

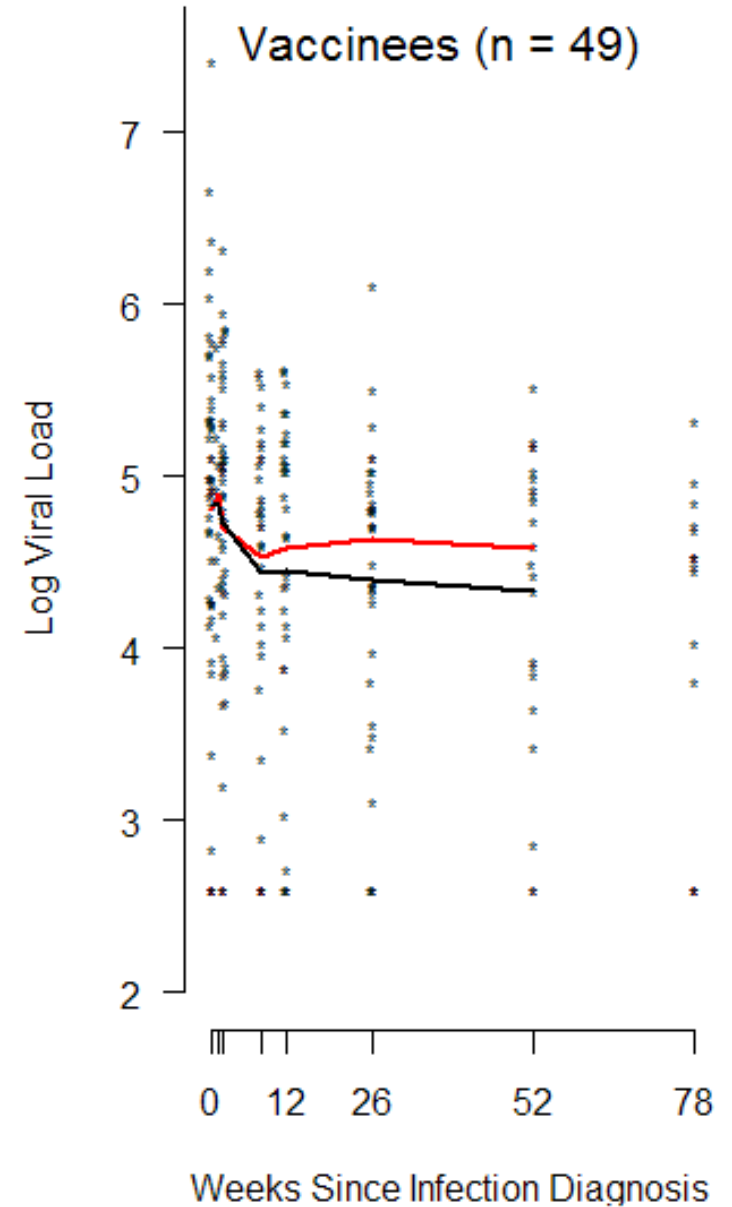
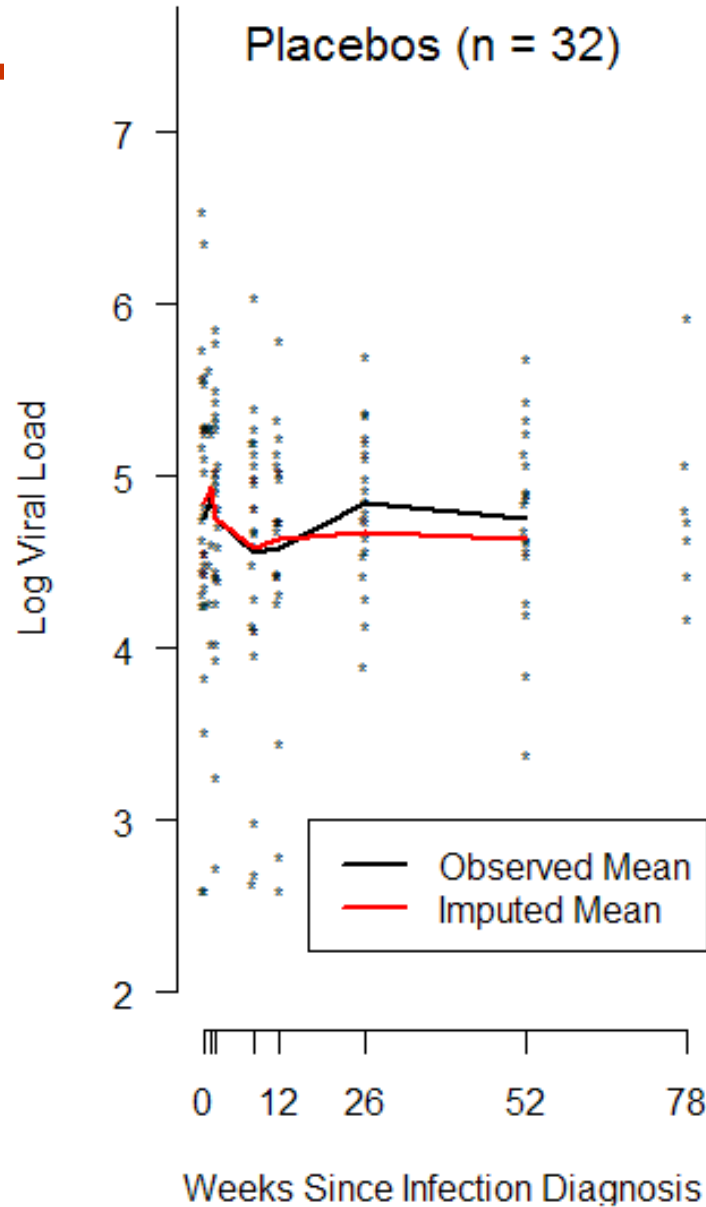
- 4 treated for acute HIV were censored
- No difference between treatment groups ($p = 0.98$, stratified log-rank)
- Estimated probability of being on ART at 1 year:
P: 18% (2-32%)
V: 24% (10-36%)





No Vaccine Effect on Pre-ART Viral Load

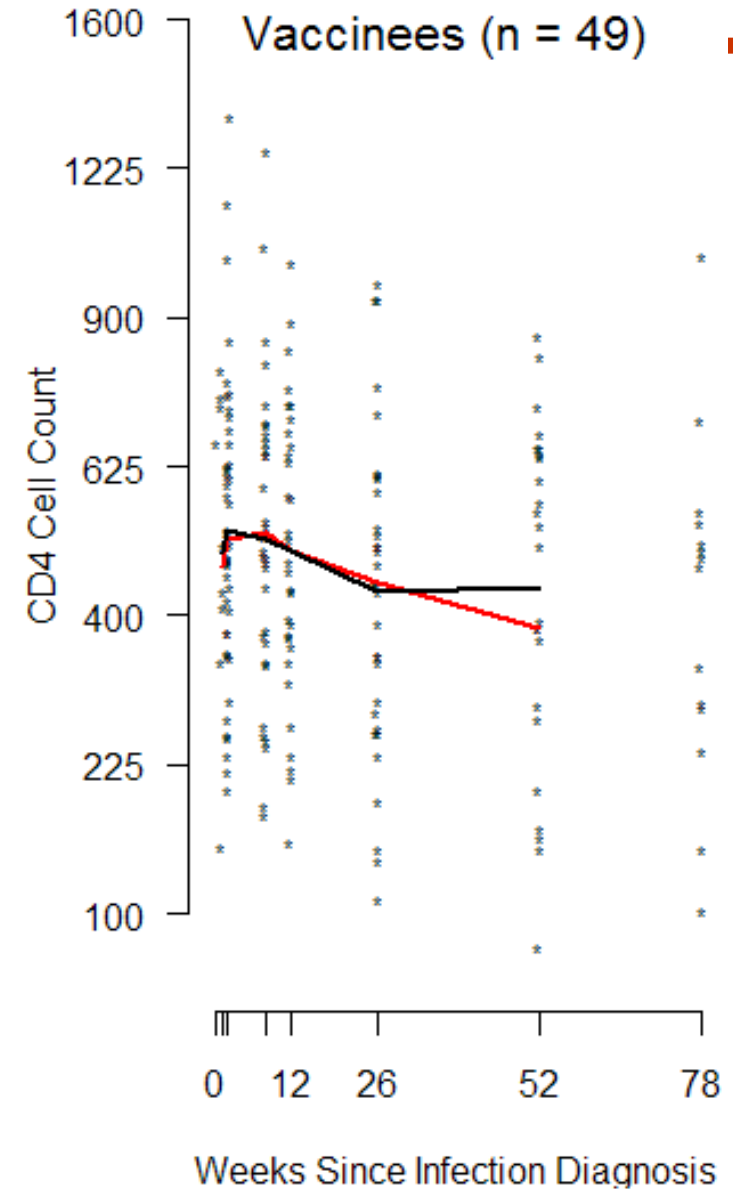
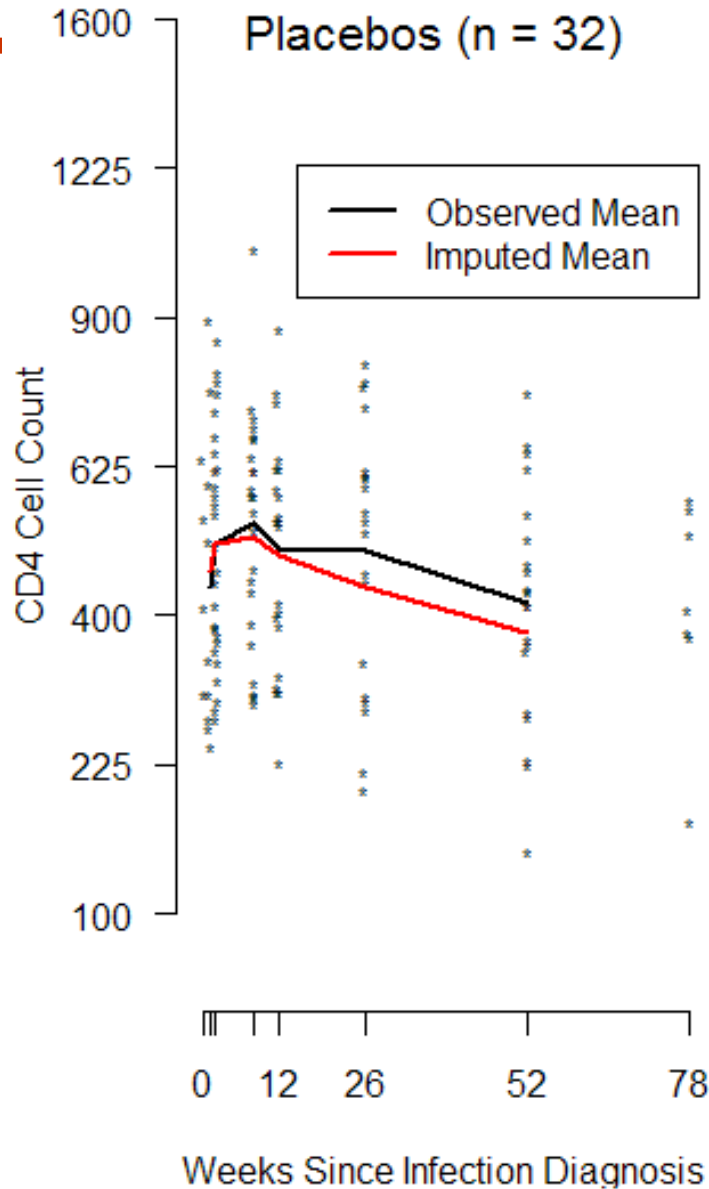
No difference between treatment groups ($p = 0.441$, GEE)





No Vaccine Effect on Pre-ART CD4

No difference between treatment groups ($p = 0.695$, GEE)



Conclusions



- Findings are consistent with primary efficacy analyses showing no vaccine effect on set point viral load
- Data provide no evidence that the vaccine exacerbated or improved the course of HIV-1 disease progression



Acknowledgements

We thank the study participants for their contributions to HIV vaccine science, and the staff and community members at the study sites for making the study possible.



HIV VACCINE
TRIALS NETWORK



Extra Slides





Available Pre-ART Viral Load and CD4 Data

% of Data Available, by Post-Infection Visit

Week	Vaccine	Placebo
0	96	100
1	16	28
2	92	84
8	67	75
12	63	66
26	65	63
52	51	65
78	44	37

Data missing due to missed visits, dropout, and ART initiation