



# Akute HIV-Infektion



# Fall: 55 jähriger Techniker

- 12/01 eingewiesen über Tropeninstitut nach Thailandaufenthalt
- Fieber, Exanthem, Ulcerationen (vgl. Fotos) [evrim.anadol@ukb.uni-bonn.de](mailto:evrim.anadol@ukb.uni-bonn.de)
- HIV – Infektion akut
- Unmittelbarer Beginn mit EFV+CVB
- Nach 9 Monaten Therapieunterbrechung
- Während Therapieunterbrechung: cerebr. Insult





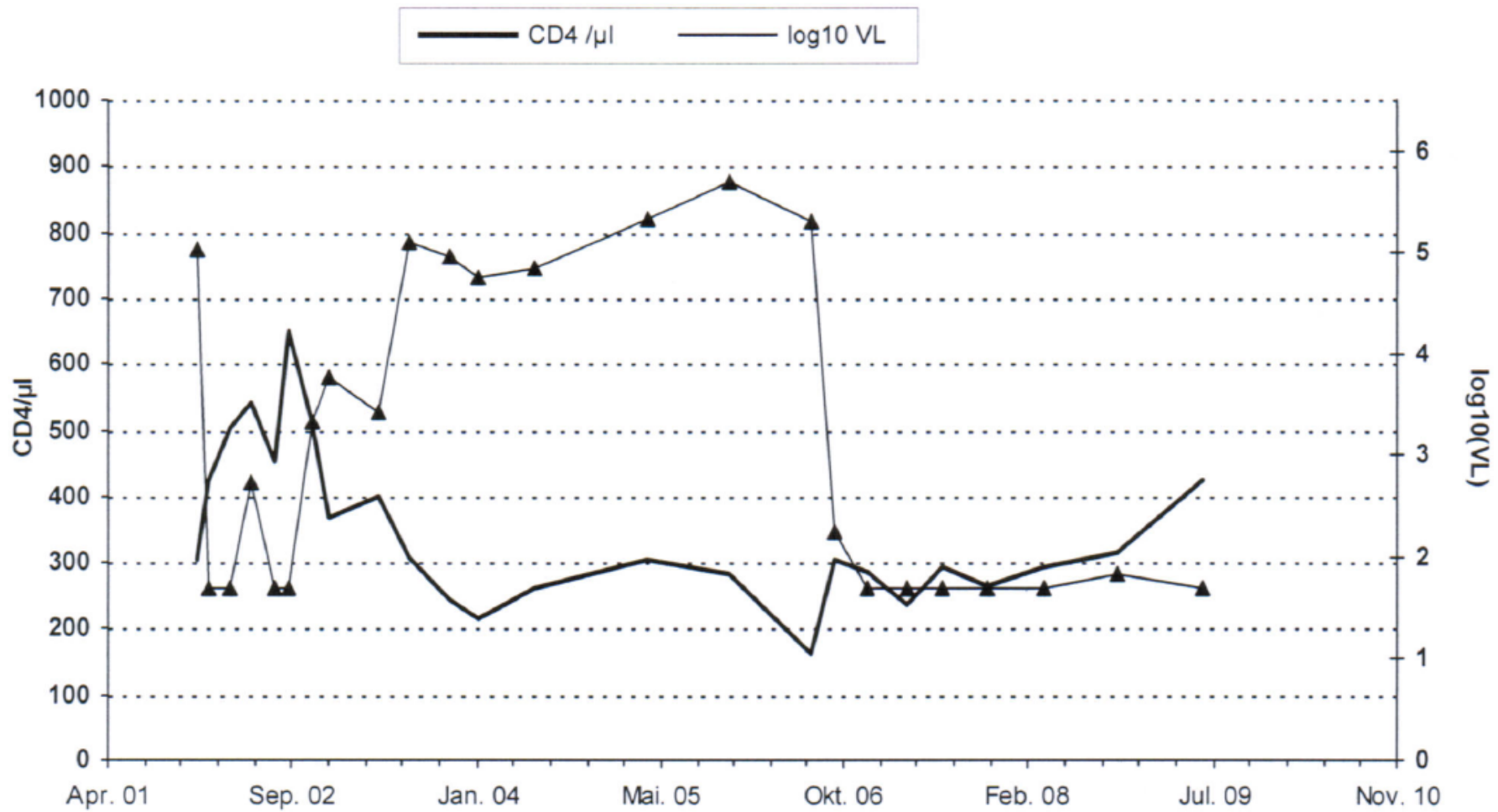








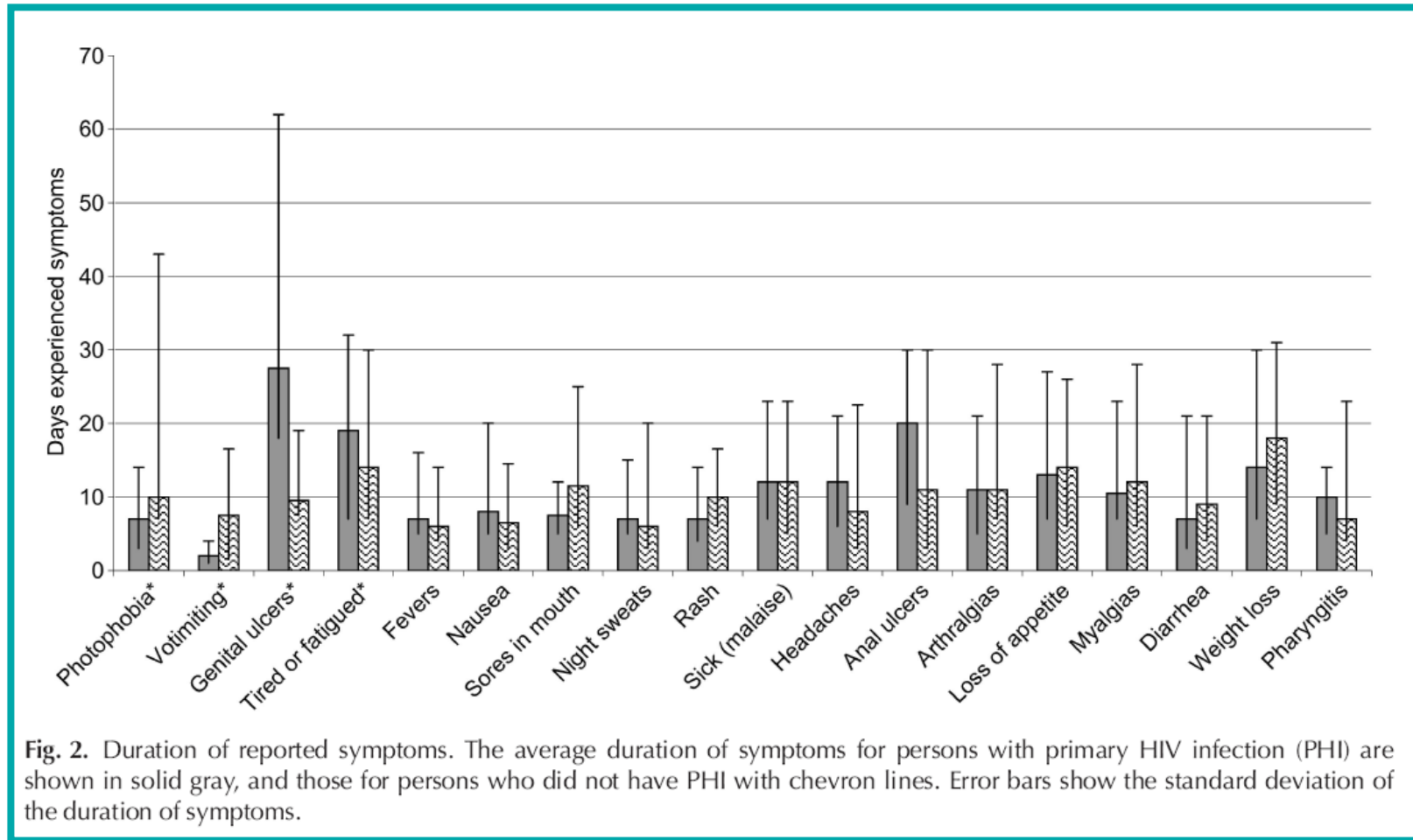
# Verlauf unter Therapie und Pause



## 22 Klinische Symptome bei PHI (alle)

Symptom	With symptom and PHI/ with PHI		Without symptom without disease/without disease		Likelihood ratio	Odds ratio (95% CI)	P value
	No.	Sensitivity [% (95% CI)]	No.	Specificity (95% CI)			
Fever	33/41	80 (65–91)	118/212	56 (49–62)	1.8	5.2 (2.3–11.7)	< 0.0001
Rash	21/41	51 (35–67)	175/213	82 (76–87)	2.9	4.8 (2.4–9.8)	< 0.0001
Oral ulcers (mouth sores)	15/41	37 (22–53)	180/213	85 (79–89)	2.4	3.1 (1.5–6.6)	0.003
Arthralgias (joint pain)	22/41	54 (37–69)	147/213	69 (62–75)	1.7	2.6 (1.3–5.1)	0.009
Pharyngitis (sore throat)	18/41	44 (28–60)	164/214	77 (70–82)	1.9	2.6 (1.3–5.1)	0.01
Loss of appetite	22/41	54 (37–69)	144/212	68 (61–74)	1.7	2.5 (1.2–4.8)	0.01
Lost weight (> 5 lb; 2.5 kg)	13/41	32 (18–48)	181/211	86 (80–90)	2.2	2.8 (1.3–6.0)	0.01
Malaise (felt sick)	28/41	68 (52–82)	108/213	51 (44–58)	1.4	2.2 (1.1–4.5)	0.04
Myalgias (pain in muscles)	20/41	49 (33–65)	148/214	69 (63–75)	1.6	2.1 (1.1–4.2)	0.04
Tired or fatigued	32/41	78 (62–89)	82/213	38 (32–45)	1.3	2.2 (1.0–4.9)	0.06
Nausea	20/41	49 (33–65)	142/212	67 (60–73)	1.5	1.9 (1.0–3.8)	0.08
Headaches	22/41	54 (37–69)	121/213	57 (50–64)	1.2	1.5 (0.8–3.0)	0.29
Photophobia	10/41	24 (12–40)	178/212	84 (78–89)	1.5	1.7 (0.8–3.8)	0.29
Night sweats	21/41	51 (35–67)	121/212	57 (50–64)	1.2	1.4 (0.7–2.7)	0.42
Confusion	10/40	25 (13–41)	174/213	82 (76–87)	1.4	1.5 (0.7–3.3)	0.44
Infected gums	4/41	10 (3–23)	201/213	94 (90–97)	1.7	1.8 (0.6–5.9)	0.52
Diarrhea	19/41	46 (31–63)	128/212	60 (53–67)	1.2	1.3 (0.7–2.6)	0.53
Sores on genitals	1/41	2 (0–13)	201/214	94 (90–97)	0.4	0.4 (0.04–3.0)	0.57
Vomiting	5/41	12 (4–26)	193/212	91 (86–95)	1.4	1.4 (0.5–4.0)	0.72
Sores on anus	2/41	5 (1–17)	208/214	97 (94–99)	1.7	1.8 (0.3–9.1)	0.83
Stiff neck	14/41	34 (20–51)	134/211	64 (57–70)	0.9	0.9 (0.4–1.8)	0.9
Fever and rash	19/41	46 (31–63)	193/213	91 (86–94)	4.8	8.3 (3.6–19.3)	< 0.0001

# Symptomdauer bei PHI und Alternativdiagnose



# Prädiktoren der HIV-Infektion

**Table 3.** Multiple logistic regression model of symptoms as predictors of primary HIV.

Symptom	Odds ratio (95% CI)	<i>P</i> value
Fever	4.0 (1.7–9.3)	0.002
Rash	3.4 (1.6–7.3)	0.002
Oral ulcer	2.1 (0.9–4.8)	0.07
Pharyngitis	2.0 (0.9–4.3)	0.07

CI, confidence interval.

## Human Immunodeficiency Virus Type 1-Specific CD8<sup>+</sup> T-Cell Responses during Primary Infection Are Major Determinants of the Viral Set Point and Loss of CD4<sup>+</sup> T Cells<sup>∇†</sup>

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- n=428 PHI, davon 224 mit AHI (<3 Banden WB), davon 110 ART naiv
- n=99 CHI; Daten aus MACS-Kohorte (dort HLA-Typisierung vorhanden)
- n=204 mit HIV-Infektion < 6Mo (=EHI)
- IFN $\gamma$  Elispot CD8; HLA Typisierung
- CD8 Immunodominance: „An immunodominant epitope-specific CD8 T-cell response was defined as a response to the most frequently recognized epitope restricted by the respective HLA class I allele in the study population“

# Inverse Korrelation CD8 immundominanter response und VL setpoint

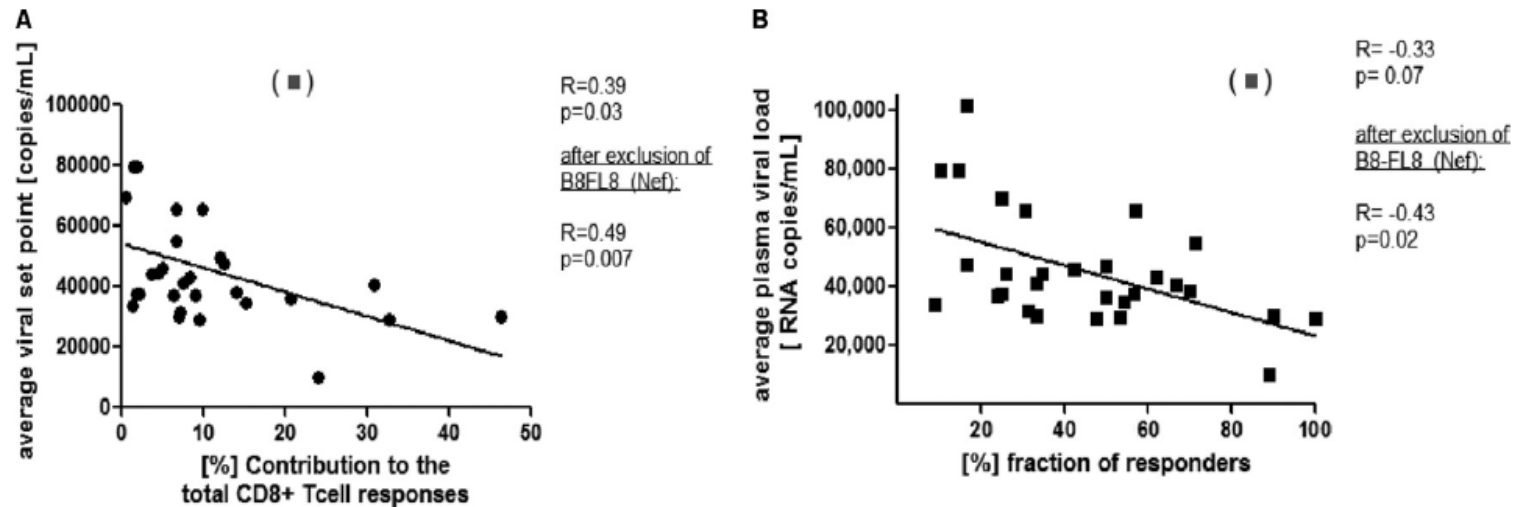
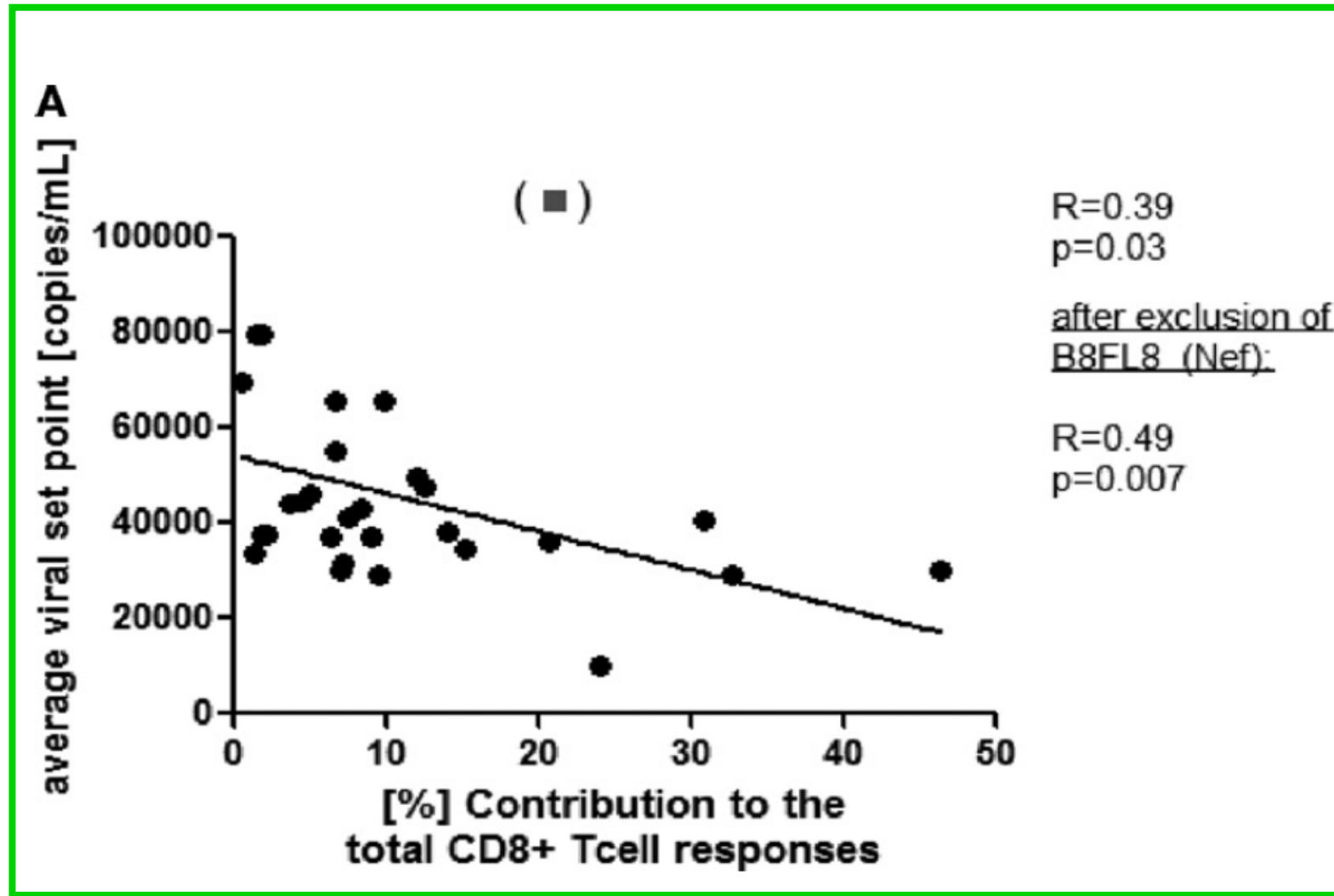
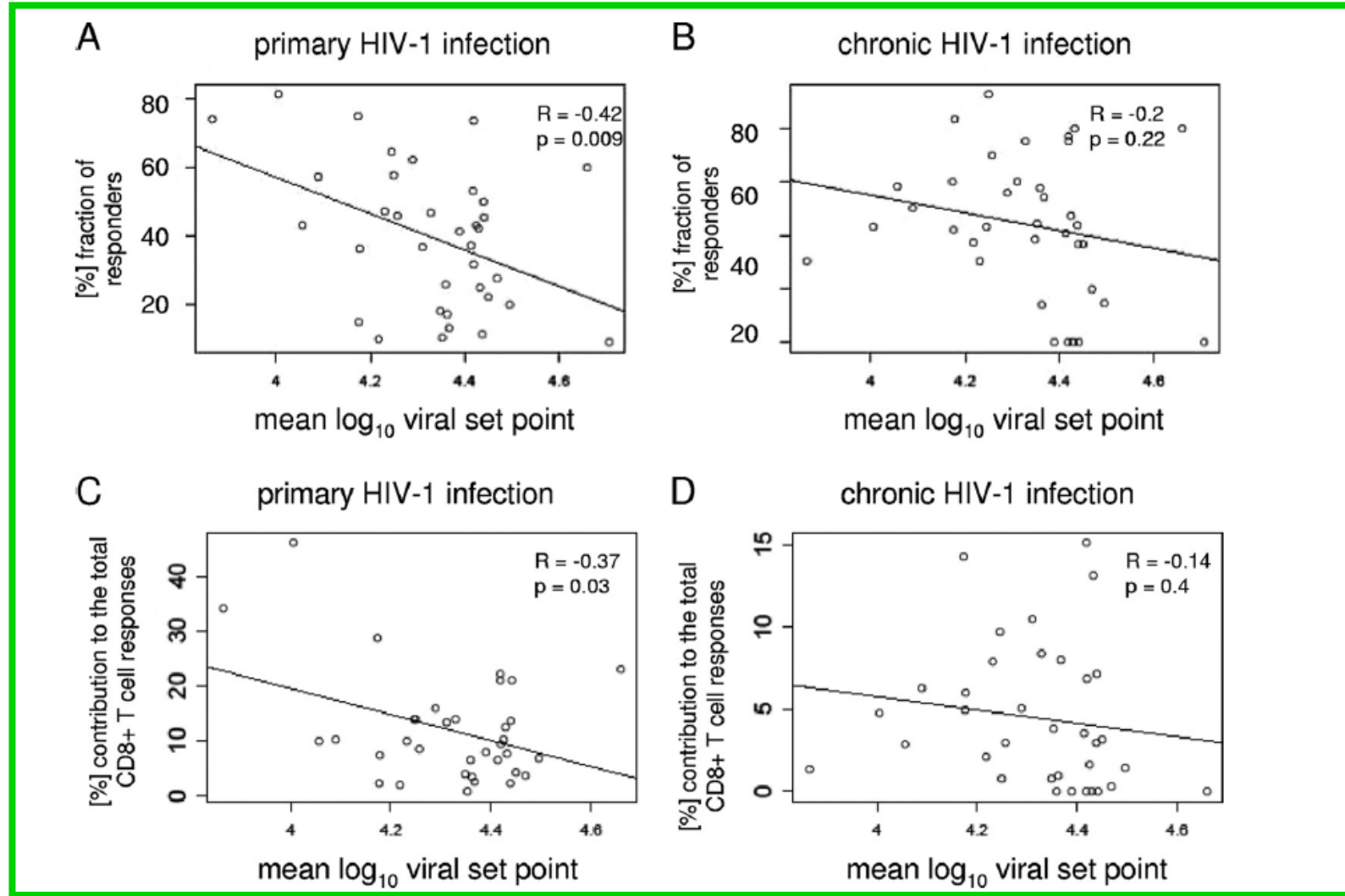


FIG. 2. Correlation between immunodominance patterns of HIV-1-specific CD8<sup>+</sup> T-cell responses and the viral set point. The early viral set points 6 months after infection were determined for 110 subjects identified during PHI who remained treatment naïve. (A) Correlation between the contributions of the immunodominant HIV-1-specific CD8<sup>+</sup> T-cell responses restricted by each HLA class I allele to the total virus-specific CD8<sup>+</sup> T-cell responses and the average viral set point for the respective HLA class I allele ( $n = 110$ ). The average viral load showed a significant inverse correlation ( $R = -0.39$ ;  $P = 0.03$ ) with the percent contribution of immunodominant HIV-1-specific immune responses restricted by the respective HLA class I allele to the total response, and it became more prominent ( $P = 0.007$ ) after removal of the outlier B8-FL8 (Nef) (■) based on Cook's outlier analysis ( $R = -0.49$ ). (B) Correlation between the frequencies of recognition ([%] fraction of responders expressing the respective HLA allele) of the most immunodominant HIV-1-specific CD8<sup>+</sup> T-cell epitope restricted by each HLA class I allele and the average viral set point for subjects ( $n = 110$ ) expressing the respective HLA class I allele. The average viral load showed an inverse correlation ( $P = 0.07$ ) with the (%) recognition of the immunodominant CD8<sup>+</sup> T-cell epitope restricted by the respective HLA class I allele ( $R = -0.33$ ) and became statistically significant ( $R = -0.43$ ;  $P = 0.03$ ) after removal of the outlier B8-FL8 (Nef) (■) based on Cook's outlier analysis.

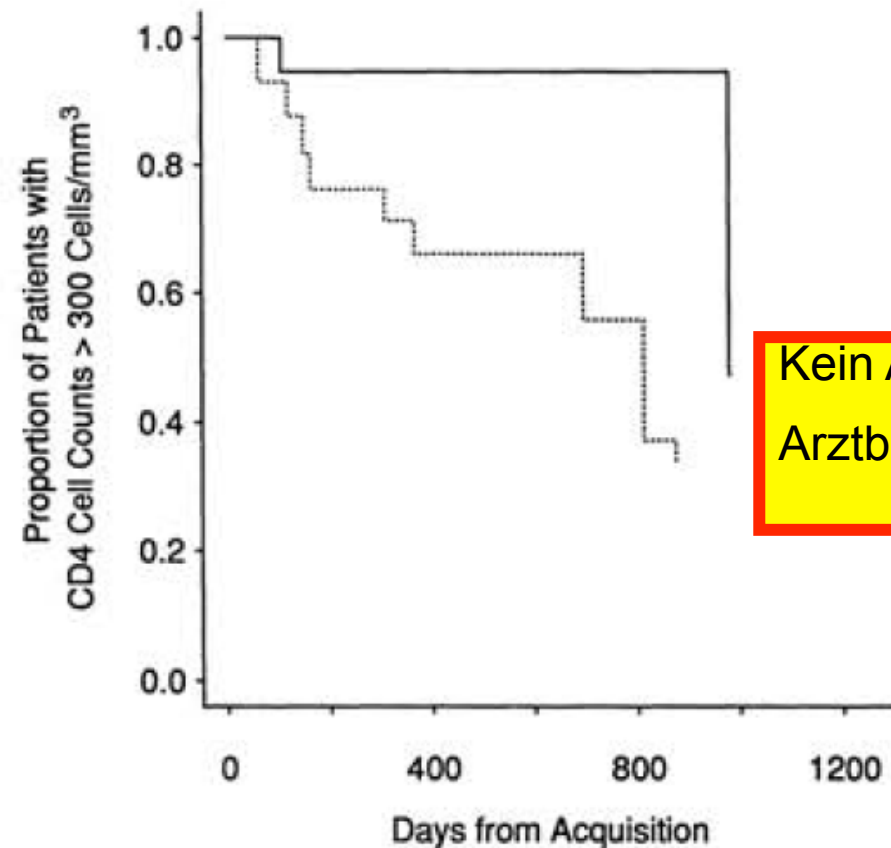
Je höher der Prozentsatz immundominanter CD8-Antworten, desto niedriger der setpoint



# Vergleich PHI und CHI



# Arztbesuch mit rascherer Progredienz assoziiert (!!)



**Figure 3.** Kaplan-Meier analysis of time to a CD4 cell count of 300 cells/mm<sup>3</sup> or less for persons who consulted a physician about symptoms of HIV seroconversion (dotted line) and those who did not (solid line).

# Schlußfolgerungen

- Schwere symptomatische PHI: ART wohl hilfreich
- Studien fehlen leider
- Einzelfälle: CD4 Rekonstitution in 50% und 1000er Bereich: Argument für Frühtherapie