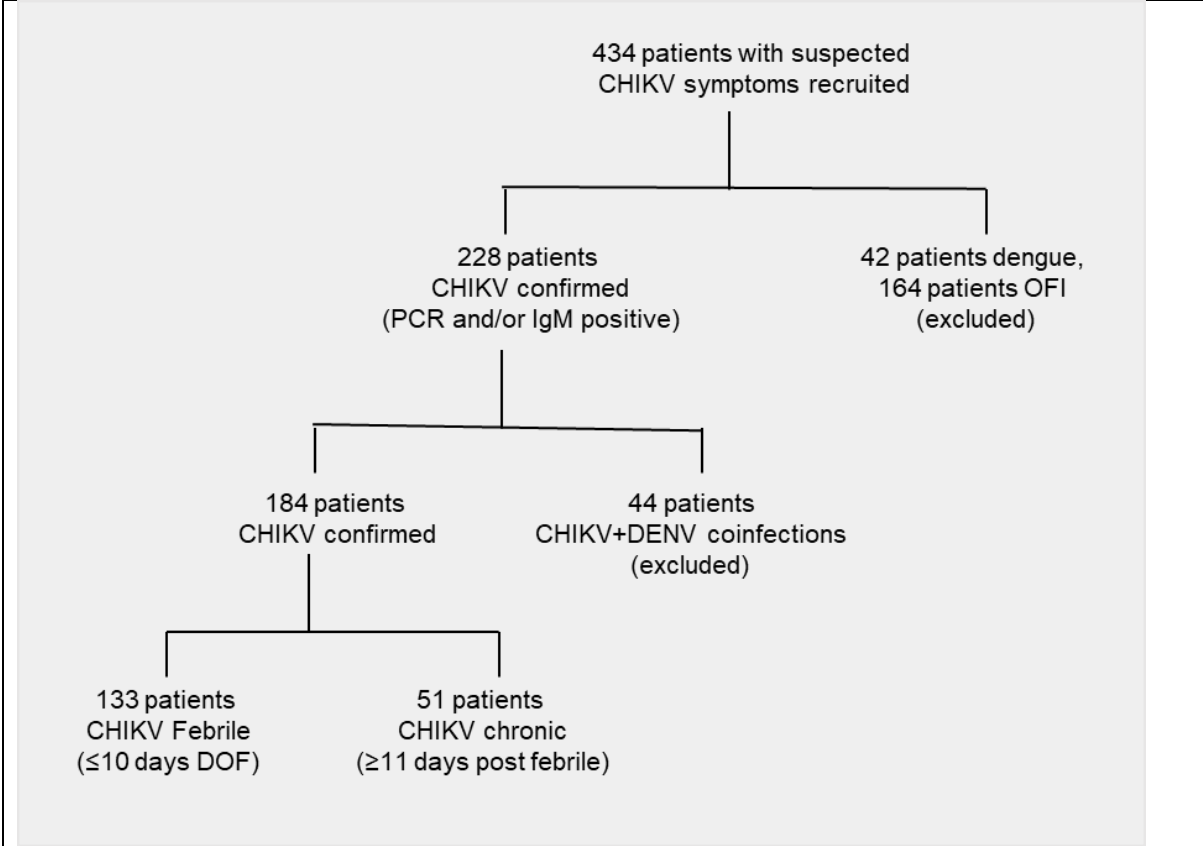
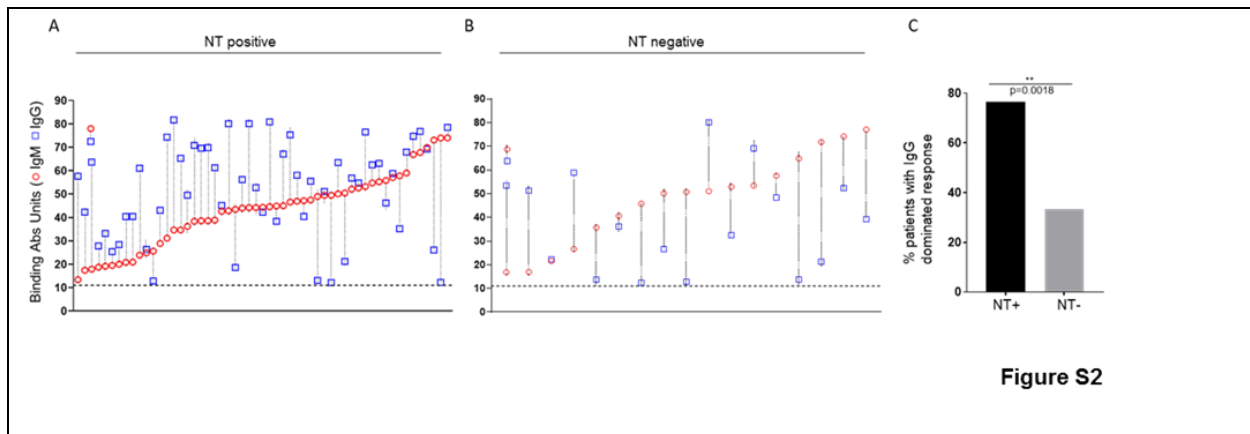


# Supplementary data



**Figure S1. Recruitment strategy.** In order to avoid bias towards any particular acute febrile antibody profile, we first recruited all the subjects with chikungunya-suspected symptoms (n=434). We then excluded Dengue (n=42) or dengue-chikungunya co-infections (n=44) or other febrile illnesses (OFI) (n=134). Chikv febrile with  $\leq 10$  Days of fever (n=133) and Chikv Chronic with  $\geq 11$  to 40 days of fever (n=51) were included in the study.

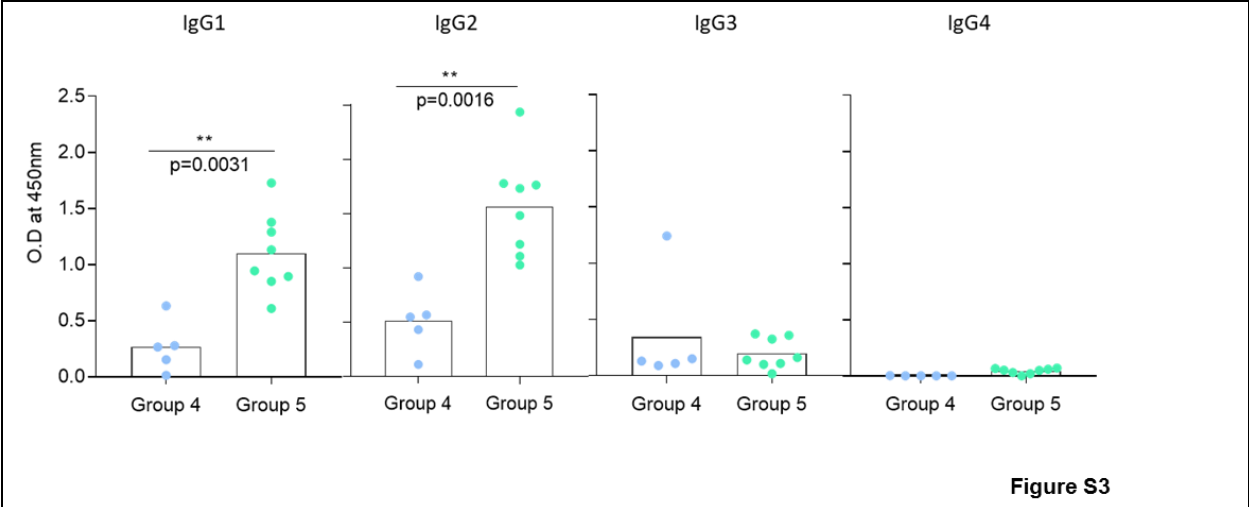


**Figure S2: Association of the IgG dominant isotype switched response with evolution of NT activity during the CHIKV febrile phase.**

**Panel A.** Paired analysis of plasma CHIKV specific IgM (red circles) and IgG (blue squares) values in individual CHIKV febrile patients (group V, IgM and IgG along with NT activity, n=55) that were stratified based on IgM values on X-axis.

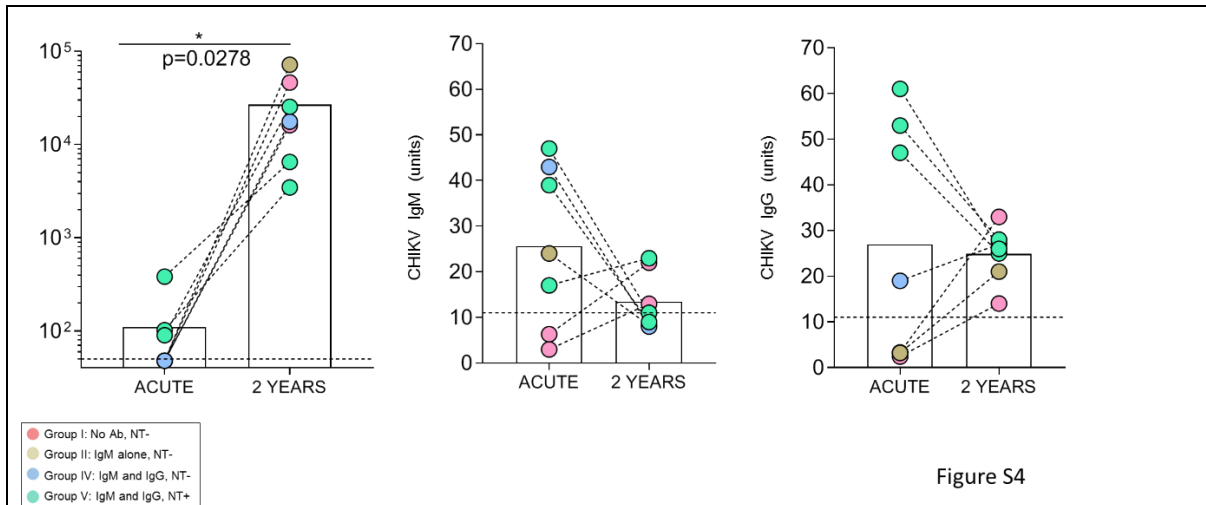
**Panel B.** Paired analysis of plasma CHIKV specific IgM (red circles) and IgG (blue squares) values in individual CHIKV febrile patients (group IV, IgM and IgG no NT activity, n=17) that were stratified based on IgM values on X-axis.

**Panel C.** Percentage of patients with IgG dominated (IgG>IgM) response among the febrile patients that showed isotype switched response depending on whether they were positive NT activity or not. *Statistical significance was calculated by chi square test.*



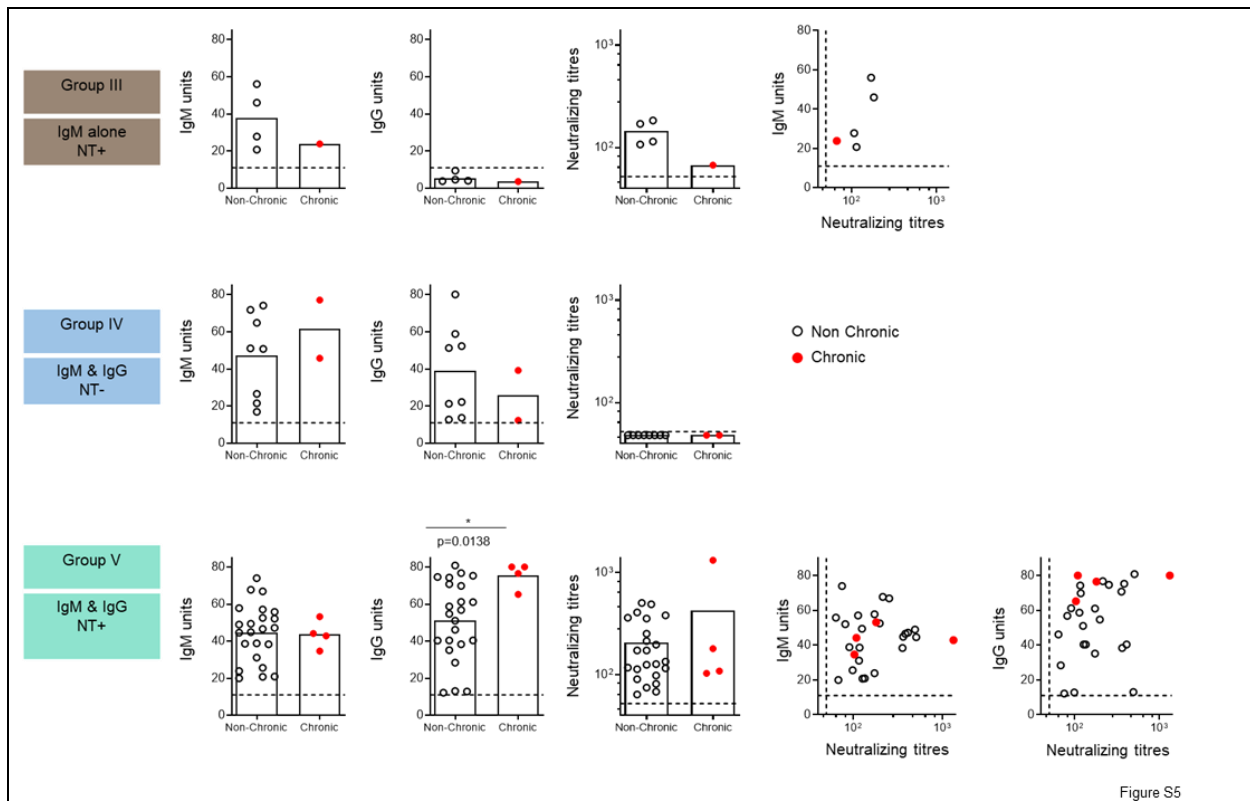
**Figure S3: Analysis of IgG subtypes among the patients that evolved an isotype switched antibody response during the CHIKV febrile phase.**

CHIKV specific IgG1, IgG2, IgG3 and IgG4 in the plasma of group IV (n=4) and group V (n=9) patients. Each dot represents individual patient. Mean values for each group are indicated by bars. Statistical significance was calculated by unpaired two samples Mann-Whitney test.



**Figure S4: Paired analysis of the NT, IgM & IgG antibody titers at acute phase and after 2 years**

Paired analysis of NT Ab titers (Panel A), IgM levels (Panel B) and IgG levels (Panel C) at acute phase and after 2 years in individual subjects (n=7). The acute febrile antibody response pattern in individual patients is indicated in the box below. Groups were compared by paired two tailed t test.



**Figure S5:** Correlation analysis between the NT activity, IgM or IgG magnitude between the individuals who were protected versus those that develop chronic arthritis from groups III, IV and V patients.

**Panel A.** Acute febrile IgM levels (left), IgG levels (second), NT Ab titers (Third) in group III patients (n=5) that were protected (non-chronic, open symbols) versus the individual that was not protected (Chronic, red closed symbol) in a 20 month follow up. Mean values indicated by bars. Right most, correlation between IgM levels and NT activity in this group. The individual that was not protected is indicated by red color.

**Panel B.** Acute febrile IgM levels (left) and IgG levels (second) in group IV patients (n=10) that were protected (non-chronic, open symbols) versus the individuals that were not protected (Chronic, red closed symbols) in a 20 month follow up. Mean values indicated by bars. Right most, correlation between IgM levels and NT activity in this group. The individuals that were not protected are indicated by red color.

**Panel C.** Acute febrile IgM levels (left) and IgG levels (second), IgG levels (third) in group V patients (n=27) that were protected (non-chronic, open symbols) versus the individuals that were not protected (Chronic, red closed symbols) in a 20 month follow up. Mean values indicated by bars. Fourth, correlation between IgM levels and NT activity in this group. Fourth, correlation between IgG levels and NT activity in this group. The individuals that were not protected are indicated by red color.

	<i>Febrile (n=133)</i>	<i>Early chronic<sup>A</sup> (n=21)</i>	<i>Late chronic<sup>B</sup> (n=30)</i>
Age Mean (Range) in Years	38.2 (15-77)	48.8 (26-70)	46.1 (20-70)
Males/Females	55/78	7/14	6/24
Arthritis	94 (70.6%)	16 (76%)	27 (90%)
Arthralgia	129 (97.0%)	21 (100%)	30 (100%)
Rash	63 (47.4%)	11 (52.3%)	18 (60%)
Erythematous	19 (14.3%)	2 (95%)	3 (10%)
Myalgia	02 (1.5%)	0 (0%)	0 (0%)
Headache	110 (82.7%)	17 (81%)	28 (93%)
Vomiting	78 (58.6%)	14 (67%)	14 (47%)
Diarrhea	32 (24.0%)	8 (38.0%)	10 (33.0%)
Abdominal Pain	46 (34.6%)	6 (29%)	12 (40%)
Rhinitis	47 (35.5%)	4 (19%)	14 (47%)
Restlessness	95 (71.4%)	19(90%)	29 (97%)
Cough	44 (33.1%)	13 (62%)	15 (50%)

<sup>A</sup> 11 to 29 days post febrile  
<sup>B</sup> 30 to 40 days post febrile

**Table S1.**

**Table S1: Demographic and clinical characteristics of the CHIKV confirmed patients included in the study.**

Groups*	Patients in who virus was recoverable Virus positive/number tested(Percent)	P value**
Group I (No Ab NT-)	25/25 (100%)	-
Group II (IgM alone)	18/25 (72%)	0.0047
Group III (IgM + NT +)	5/10 (50%)	0.0002
Group IV (IgM+ IgG+)	4/17 (24%)	<0.0001
Group V (IgM+IgG+)	12/55 (22%)	<0.0001

*\*groups based on febrile Ab response pattern*  
*\*\*p value relative to Group I*

**Table S2:**

**TableS2: Virus was recoverable in a much lower proportion of the patients that have induced NT activity regardless of isotype or an isotype switched response regardless of NT activity within the febrile phase.**