

### SAT0573 SOCIODEMOGRAPHIC, CLINICAL CHARACTERISTICS AND JOINT INVOLVEMENT OF A CHIKUNGUNYA EPIDEMIC IN COLOMBIA

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**Background:** During 2014 and 2015 a chikungunya epidemic took place in Colombia concurrently with a COPCORD study across the country.

**Objectives:** To describe the clinical characteristics of CHIKV infection in 6 different cities in Colombia and determine the most frequently associated clinical picture with CHIKV.

**Methods:** World Health Organization criteria was used to identify CHIKV patients. A complete characterization and confirmation was established with CHIKV immunoglobulin G and IgM serology. Four possible scenarios were established: patients who met or not the criteria for probable case, and patients who met or not the criteria for confirmed case. *P* values were calculated between patients who met or not met the criteria. Sensibility and specificity was calculated for the WHO criteria.

**Results:** A total of 604 patients with MSK symptoms were evaluated in 6 different cities. The sociodemographic, clinical characteristics and joint involvement of the studied population is depicted in tables 1 and 2. Sensibility and specificity of the WHO criteria were 56.2% and 91.1% respectively (PPV: 83.3%, NPV: 74.4%).

Table 1. Sociodemographic and Clinical Characteristics of Patients with Positive COPCORD

	WHO Probable Case Criteria		WHO Confirmed Case Criteria	
	Met Criteria (n: 180)	Did Not Met Criteria (n: 424)	Met Criteria (n: 150)	Did Not Met Criteria (n: 454)
Age (mean; SD) in years	46,1±16,2	49,5±17,8	44,9±16,3	49,7±17,6*
Gender Female (%)	133 (73,9)	285 (67,2)	113 (75,3)	305 (67,2)
CHIKV IgG in SU (mean; SD)	36,5±22,9*	16,2±18,3	42,9±19,4*	15,4±18,0
CHIKV IgM in SU (mean; SD)	9,0±6,9*	6,6±5,1	9,8±7,2*	6,5±4,9
Fever (%)	180 (100)*	0 (0,0)	150 (100)*	30 (6,6)
Rash (%)	126 (70,0)*	28 (6,6)	109 (72,7)*	45 (9,9)

\**p*<0,005.

Table 2. Clinical Characteristics of Joint Involvement

	WHO Probable Case Criteria		WHO Confirmed Case Criteria	
	Met Criteria (n: 180)	Did Not Met Criteria (n: 424)	Met Criteria (n: 150)	Did Not Met Criteria (n: 454)
Symmetry (%)				
Arthralgia	177 (98,3)*	215 (50,7)	147 (98,0)*	245 (54,0)
Arthritis	85 (47,2)*	14 (3,3)	80 (53,3)*	19 (4,2)
Arthralgia (%)				
Elbows	58 (32,2)*	60 (14,2)	48 (32,0)*	70 (15,4)
Wrists	78 (43,3)*	67 (15,8)	65 (43,3)*	80 (17,6)
Hands	120 (66,7)*	126 (29,7)	103 (68,7)*	143 (31,5)
Knees	128 (71,1)*	200 (47,2)	107 (71,3)*	221 (48,7)
Ankles	103 (57,2)*	95 (22,5)	92 (61,3)*	106 (23,4)
Feet	71 (39,4)*	94 (22,2)	65 (43,3)*	100 (22,0)
Arthritis (%)				
Wrists	17 (9,4)*	4 (0,9)	16 (10,7)*	5 (1,1)
Hands	44 (24,4)*	6 (1,4)	42 (28,0)*	8 (1,8)
Knees	21 (11,7)*	4 (0,9)	20 (13,3)*	5 (1,1)
Ankles	43 (23,9)*	8 (1,9)	42 (28,0)*	9 (2,0)
Feet	40 (22,2)*	7 (1,7)	39 (26,0)*	8 (1,8)
Myalgia (%)	130 (72,2)*	35 (8,3)	106 (70,7)*	59 (13,0)
Fatigue (%)	165 (91,7)*	41 (9,7)	137 (91,3)*	69 (15,2)

\**p*<0,005.

**Conclusions:** Our study shows a clear clinical picture of systemic symptoms, high titers of CHIKV immunoglobulins, and a defined joint involvement, which will help clinicians to identify and differentiate CHIKV infection from other viral infections and MSK diseases. Also, the sensibility of the WHO criteria applied to our cohort of patients demonstrates the need to improve clinical criteria without the use of laboratory tests.

**Disclosure of Interest:** None declared

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### SAT0574 PERFORMANCE OF IMMUNOGLOBULIN M AND G (IGM AND IGG) ANTIBODIES AGAINST CHIKUNGUNYA VIRUS (CHIKV) BY ENZYME-LINKED IMMUNOSORBENT (ELISA) TECHNIQUE

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**Background:** CHIKV is suspected based on epidemiological and clinical criteria, however confirmation of the disease is only achieved by laboratory tests.

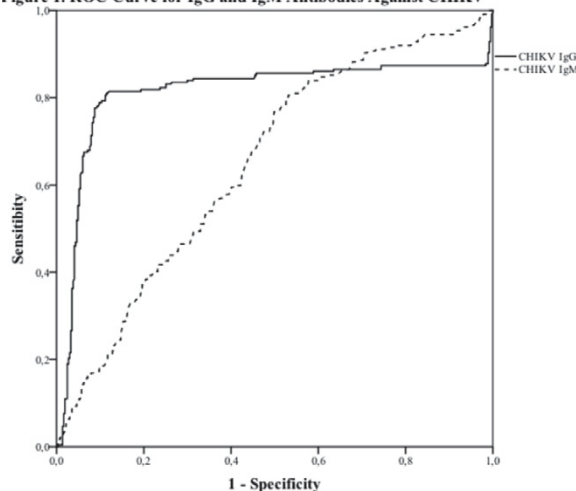
Laboratory diagnosis is made by two approaches: the detection of viral RNA and identification of the specific immune response by serological methods. Serological tests are the most frequently used laboratory methods for the diagnosis of CHIKV. IgM is the first detected antibodies during 4 to 6 days after onset of symptoms followed by IgG. In Colombia, CHIKV's probable cases are not mandatory to be confirmed, so there is no standardization for laboratory confirmation tests

**Objectives:** To evaluate the performance of IgM and IgG antibodies against CHIKV in a cohort of patients with CHIKV

**Methods:** IgM and IgG antibodies against CHIKV were measured by ELISA (AbcamO ab177835 and ab177835 anti-chikungunya virus IgM and IgG human ELISA kit, Cambridge, UK) technique in 604 patients with CHIKV suspicion. A typical case of CHIKV with high sensitivity and specificity obtained from a previous study was used as gold standard for diagnosis of CHIKV. Since CHIKV epidemic of 2014–2015 was the first to be reported in our country (Colombia), no second measurements of IgG were needed to confirmed infection.

**Results:** Cut off point for IgG was 14,3 SU and for IgM was 11,2 SU. Mean values for IgG was 36,7 SU (±22,7) in patients with CHIKV and 8,6 SU (SD± 6,3) for IgM. Statistical significance was obtained for both IgG and IgM (*p*<0,0001) when comparing patients with and without CHIKV. Receiver operating characteristic (ROC) curves showed and area under the curve (AUC) of 0,81 for IgG and 0,65 for IgM (figure 1).

Figure 1. ROC Curve for IgG and IgM Antibodies Against CHIKV



**Conclusions:** Our study revealed a good performance of IgG and regular performance of IgM for the diagnosis of CHIKV in a cohort of CHIKV patients from Colombia's epidemic. Cut off points for both IgG and IgM were measured for future reference.

**Disclosure of Interest:** None declared

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### SAT0575 ASSOCIATION OF HUMAN LEUKOCYTE A, B AND DR ANTIGENS IN PATIENTS WITH CHIKUNGUNYA VIRUS INFECTION

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**Background:** Host factors like innate and adaptive immune response play an important part in disease susceptibility. Also, the role of host genetics factors in the pathogenesis of viral diseases have been reported. Human leukocyte antigen (HLA) is responsible for initiating innate and adaptive immune responses. Studies have demonstrated HLA class II alleles association to susceptibility or resistance to chikungunya virus infection (CHIKV), however there is no evidence of association studies of HLA class I and II in the Latin-American CHIKV epidemic.

**Objectives:** To evaluate the association of human leukocyte A, B and DR antigens in a group of Colombian patients with CHIKV.

**Methods:** Characterization of HLA allele A, B, and DR of 62 patients with confirmed CHIKV was compared with 100 unrelated healthy subjects as a control group. The comparison between the different allele frequencies in the patient group and the control population was performed using  $\chi^2$ , with Bonferroni correction. A *p* value <0.05 was considered to be significant. The magnitude of associations was assessed using odds ratio (OR) and confidence intervals (CI) of 95%. To establish the homogeneity of the studied groups, the Hardy-Weinberg disequilibrium was used.

**Results:** Of the 62 patients studied 46 were female (74,2%). The mean age was 45,0 (SD±16,8) years. Most of the patients were from Barranquilla (64,5%; n: 40). Mean CHIKV immunoglobulin G (IgG) was 38,6 SU (SD±21,7), while IgM was 13,3 SU (SD±7,6). Also C reactive protein levels were high (mean: 14,7