



## ASSOCIATION BETWEEN CLINICAL MANIFESTATIONS OF CHIKUNGUNYA FEVER AND GALECTINS

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### BACKGROUND

Chikungunya fever (CF) is an arboviral disease that has caused an epidemic burst of chronic inflammatory joint disease in Latin America in the last few years. Efforts are being spent in understanding the mechanisms by which it may cause such articular damage and in determining possible biomarkers in the CF. Galectins (GAL) have multiple functions including control of inflammatory responses in both innate and adaptive immunity and high levels of GAL-9 increases the risk of progression to chronic infection. Our objectives were to determine the serum levels of galectin-1, -3, -4, -7, and -9 in patients with subacute and chronic articular manifestations of CF, and their associations with clinical manifestations.

### MATERIALS AND METHODS

We evaluated the clinical manifestations of CF and serological confirmation with anti-Chikungunya virus (CHIKV) antibodies. Age and gender matched healthy individuals served as controls. Anti-CHIKV antibodies and galectins serum levels were measured by ELISA.

### RESULTS

Forty-four patients, predominantly women (81.8%), with mean age of  $55.2 \pm 13.8$  years, with 23 (53.33%) in the subacute (3-12 weeks) and 21 (46.67%) in the chronic phase (>12 weeks). Forty-four patients (100.0%) were positive for IgG, and 28 (63.6%) were IgM positive. The swollen joint count was 8 (3-21), and the median EVA of pain was 7 (5-8). No patients were in use of corticosteroids at the evaluation, and 34 (77.2%) reported previous use them. Galectins levels are depicted in table 1. No difference in GAL-9 serum levels was found between patients with subacute and chronic symptoms. A significant correlation of GAL-9 with joint stiffness intensity by VAS ( $p=0.024$ ,  $r=0.459$ ), and association joint stiffness with duration, <30 min vs >30 min, (median 1682 [1500-2550] vs 2378 [2119-2959] pg/ml,  $p=0.020$ ) was found.

### CONCLUSION

These results may reflect a participation of GAL-9 in the immunopathogenesis of inflammatory process in CF, as the morning stiffness may reflect the systemic inflammatory process. As GAL-9 may function as a link between innate and adaptive immune responses and since it is involved in the chronification process of viral diseases, it may be an interesting biomarker to be investigated.