



Association between -174G/C and -572G/C interleukin 6 gene polymorphisms and severe radiographic damage to the hands of Mexican patients with rheumatoid arthritis: a preliminary report

**S.A. Zavaleta-Muñiz¹, L. Gonzalez-Lopez^{2,3}, J.D. Murillo-Vazquez^{4,5},
A.M. Saldaña-Cruz⁶, M.L. Vazquez-Villegas^{7,8}, B.T. Martín-Márquez⁹,
J.C. Vasquez-Jimenez⁶, F. Sandoval-Garcia⁹, A.J. Ruiz-Padilla¹⁰,
N.S. Fajardo-Robledo¹¹, J.M. Ponce-Guarneros¹², A.D. Rocha-Muñoz¹³,
M.F. Alcaraz-Lopez¹⁴, D. Cardona-Müller¹⁵, S.E. Totsuka-Sutto¹⁵,
E.D. Rubio-Arellano¹¹ and J.I. Gamez-Nava⁴**

¹Facultad de Ciencias de la Salud, Universidad Juárez del Estado de Durango, Gómez Palacio, Durango, México

²Departamento de Medicina Interna/Reumatología, Hospital General Regional 110 del Instituto Mexicano del Seguro Social, Guadalajara, Jalisco, México

³Centro Universitario de Ciencias de la Salud, Universidad de Guadalajara, Guadalajara, México

⁴Unidad de Investigación en Epidemiología Clínica, Centro Médico Nacional de Occidente, Instituto Mexicano del Seguro Social, Hospital de Especialidades, Guadalajara, Jalisco, México

⁵Doctorado en Farmacología, Centro Universitario de Ciencias de la Salud, Universidad de Guadalajara, Guadalajara, Jalisco, México

⁶Centro Universitario de Investigaciones Biomédicas Universidad de Colima, Colima, Colima, México

⁷Departamento de Epidemiología, Unidad Médica Familiar 4, Instituto Mexicano del Seguro Social, Guadalajara, Jalisco, México

⁸Departamento de Salud Pública, Centro Universitario de Ciencias de la Salud, Universidad de Guadalajara, Guadalajara, Jalisco, México

⁹Instituto de Investigación en Reumatología y del Sistema Músculo Esquelético, Centro Universitario de Ciencias de la Salud, Universidad de Guadalajara, Guadalajara, Jalisco, México

¹⁰División de Ciencias Naturales y Exactas, Universidad de Guanajuato, Campus Guanajuato, Guanajuato, México

¹¹Laboratorio de Investigación y Desarrollo Farmacéutico, Centro Universitario de Ciencias Exactas e Ingeniería, Universidad de Guadalajara, Guadalajara, Jalisco, México

¹²Unidad Médica Familiar, Magdalena, Jalisco, México

¹³Centro Universitario de Tonalá, U de G, Tonalá, Jalisco, México

¹⁴Departamento de Medicina Interna/Reumatología, Hospital General de zona 14 del Instituto Mexicano del Seguro Social, Guadalajara, Jalisco, México

¹⁵Instituto de Terapéutica Experimental y Clínica, CUCS, U de G, Guadalajara, Jalisco, México

Corresponding author: J.I. Gamez-Nava

E-mail: drivangamez@prodigy.net.mx

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ABSTRACT. Several interleukin 6 gene (*IL6*) polymorphisms are implicated in susceptibility to rheumatoid arthritis (RA). It has not yet been established with certainty if these polymorphisms are associated with the severe radiographic damage observed in some RA patients, particularly those with the development of joint bone ankylosis (JBA). The objective of the present study was to evaluate the association between severe radiographic damage in hands and the -174G/C and -572G/C *IL6* polymorphisms in Mexican Mestizo people with RA. Mestizo adults with RA and long disease duration (>5 years) were classified into two groups according to the radiographic damage in their hands: a) severe radiographic damage (JBA and/or joint bone subluxations) and b) mild or moderate radiographic damage. We compared the differences in genotype and allele frequencies of -174G/C and -572G/C *IL6* polymorphisms (genotyped using polymerase chain reaction-restriction fragment length polymorphism) between these two groups. Our findings indicated that the -174G/C polymorphism of *IL6* is associated with severe joint radiographic damage [maximum likelihood odds ratios (MLE_OR): 8.03; 95%CI 1.22-187.06; P = 0.03], whereas the -572G/C polymorphism of *IL6* exhibited no such association (MLE_OR: 1.5; 95%CI 0.52-4.5; P = 0.44). Higher anti-cyclic citrullinated peptide antibody levels were associated with more severe joint radiographic damage (P = 0.04). We

conclude that there is a relevant association between the -174G/C *IL6* polymorphism and severe radiographic damage. Future studies in other populations are required to confirm our findings.

Key words: Rheumatoid arthritis; Gene; Interleukin 6; Hands; Steinbrocker radiographic classification