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Polymorphisms in the gene *IL-1A* are associated with chronic rhinosinusitis and associated phenotypes in Chinese population

Xu Yang, Cao Min, Ren Jianjun, Yang Wen, Wang Jing, Cheng Danni, Song Yao
and Zhao Yu

Sichuan University, China

Background: The gene encoding *IL-1A* (Interleukin 1 alpha), a cytokine that processes metabolic, physiological and haematopoietic activities is localized on chromosome 2q14.1, where evidence for linkage to chronic rhinosinusitis has been previously reported in Caucasian.

Objective: We hypothesized that variants in *IL-1A* are associated with chronic rhinosinusitis and related phenotypes in Chinese population. Three candidate SNPs (single nucleotide polymorphism) were involved in this study.

Methods: We investigated the association between three single nucleotide polymorphisms throughout the *IL-1A* gene and chronic rhinosinusitis, the results of SNOT-22, Lund-Mackay CT scale, Lund-Kennedy endoscope scale among 576 chronic rhinosinusitis patients, 600 control polymorphisms of three SNP were also tested. Real-time PCR was used to assess whether *IL-1A* cDNA expression differed with *IL-1A* genotype.

Results: Significant effects were observed for all three phenotypes and *IL-1A* markers (rs17561, rs2856838, rs1800587) by means of single-marker and haplotype analyses.

Conclusion: Results indicate that polymorphisms in markers within the *IL-1A* gene are associated with risk of chronic rhinosinusitis. Strong relationship were observed between polymorphisms and results of SNOT-22, Lund-Mackay CT scale and Lund-Kennedy endoscope scale.

Recent Publications

1. Xu Y, Zhao Y, Ren JJ, Wang J, Lei L and Zheng YB (2017) The advances of probiotics treatment of allergic rhinitis. *Journal of Clinical Otorhinolaryngology, Head and Neck Surgery* 31(17):1322-1327.

2. Ren J J, Zhao Y, Wang J, Ren X, Xu Y, Tang W and He Z (2017) PepsinA as a marker of laryngopharyngeal reflux detected in chronic rhinosinusitis patients. *Otolaryngology Head and Neck Surgery* 156(5):893-900.
3. Wang J, Yu Z and Ren J (2017) Effects of pepsin A on heat shock protein 70 response in laryngopharyngeal reflux patients with chronic rhinosinusitis. *Acta Otolaryngol.* 137(12):1253-1259.
4. Wang J and Zhao Y (2018) Pepsin in saliva as a diagnostic biomarker in laryngopharyngeal reflux: a meta-analysis. *Eur Arch Otorhinolaryngol.* 275(3):671-678.

Biography

Xu Yang has his expertise in evaluation and passion in improving the health and wellbeing. He has completed his M D and is pursuing his PhD. He has established animal models both in allergic rhinitis and laryngopharyngeal reflux. Currently, he is researching the single nucleotide polymorphism among many diseases in ENT.

minotaur9212@qq.com