

Role of cytokine gene polymorphisms in gastric cancer risk in Chile

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Aim: To assess the role of pro- and anti-inflammatory polymorphisms in gastric cancer susceptibility.

Patients and Methods: We genotyped 12 polymorphisms in eight cytokine genes

(Interleukin-1 β -IL1B-, IL8, IL17A, IL17F, IL32, tumor necrosis factor- α -TNF-, IL1RN, IL10) in a

case-control study of 147 patients with gastric cancer and 172 controls. **Results:** Single

polymorphism analysis revealed an association between the IL10 -592C>A single nucleotide

polymorphism and cases with moderately- or well-differentiated tumors [AA vs. GG, odds ratio

(OR)=3.01; 95% confidence interval (CI)=1.08-8.50]. We further analyzed gene-gene interactions

using a combined attribute network implemented in multifactor dimensionality reduction software.

The analysis revealed an interaction between IL8 -251A>T and IL32 rs28372698 SNPs among

cases with moderately- or well-differentiated tumors. Homozygosity for both IL8 -251T and IL32 T

alleles increases the odds for developing gastric cancer up to 2.63-fold (OR=2