Abstract

The recent identification of the CARD15/NOD2 gene as a susceptibility locus for Crohn's disease represents an important step in the immunopathogenesis of inflammatory bowel disease. The gene explains about 20% of the genetic susceptibility. CARD15 mutations are present in 30-50% of CD patients compared to 7-20% of healthy controls. The three risk alleles R702W, G908R and 1007fsInsC in NOD2 associated with susceptibility to Crohn's disease have demonstrated a remarkable amount of heterogeneity across ethnicities and populations, with regional variation across Europe. In non-Caucasian populations Crohn's disease continues to increase in incidence but this increase appears not to be a consequence of variation in NOD2. Genotype-phenotype analyses demonstrated an association of these mutations with ileum-specific disease and an increased incidence of the fibrostenotic phenotype. Although CARD15 variants do not predict response to the TNF alpha monoclonal antibodies, there are no data available on the possible influence of CARD15 mutations on response to other drugs. Screening for CARD15 mutations in order to identify high-risk individuals or to introduce an individualized disease management is therefore currently not recommended.

Keywords

CARD15/NOD2, Crohn's disease, clinical application.