Th17 response and autophagy - Main pathways implicated in the development of inflammatory bowel disease by genome-wide association studies: New factors involved in inflammatory bowel disease susceptibility [Respuesta Th17 y autofagia: Principales vías implicadas en enfermedad inflamatoria intestinal por los estudios de asociación de genoma completo: Nuevos factores implicados en la susceptibilidad a enfermedad inflamatoria intestinal]

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Inflammatory bowel disease (IBD) is an entity that mainly includes ulcerative colitis (UC) and Crohn?s disease (CD). Improved health care, diet changes, and higher industrialization are associated with an increase in IBD prevalence. This supports the central role of environmental factors in the pathology of this disease. However, IBD also shows a relevant genetic component as shown by high heritability. Classic genetic studies showed relevant associations between IBD susceptibility and genes involved in the immune response. This is consistent with prior theories about IBD development. According to these, contact of the immune system with a high number of harmless antigens from the diet and the bacterial flora should originate tolerance while preserving response against pathogens. Failure to achieve this balance may originate the typical inflammatory response associated with IBD. Recently, genome-wide association studies (GWASs) have confirmed the implication of the immune system, particularly the Th17 immune response, previously associated to other autoimmune diseases, and of autophagy. In this paper, the mechanisms involved in these two relevant pathways and their potential role in the pathogenesis of IBD are reviewed.

Autophagy

Crohn?s disease

Genome-wide association studies

Inflammatory bowel disease

Th17

Ulcerative colitis

caspase recruitment domain protein 15

granulocyte macrophage colony stimulating factor

interleukin 10

interleukin 21

interleukin 23

toll like receptor

transforming growth factor

tumor necrosis factor alpha

autophagy

bacterial flora

cell differentiation

diet

disease course

environmental factor

genetic association

genetic polymorphism

genetic regulation

genetic risk

genetic susceptibility

health care

heritability

human

immune response

inflammatory bowel disease

meta analysis (topic)

prevalence

protein expression

Review

risk assessment

signal transduction

single nucleotide polymorphism

Th17 cell