Autoimmunity

Autoimmunity is a pathological process characterized by immune system activation (innate and adaptive) against self (ie, non foreign) antigens that ultimately leads to tissue inflammation and damage.

C-reactive protein (CRP)

CRP is a plasma protein produced by the liver. CRP is a member of the class of acute phase reactants, and its levels rise when inflammatory processes occur in the body. CRP assists in complement binding to foreign and damaged cells and enhances phagocytosis by macrophages. It therefore plays an important role in immunity and defence against infections. Because CRP rises dramatically during inflammation, measurement of its level in the blood can be used as a marker of inflammation.

Dendritic cells

Dendritic cells are antigen-presenting cells that link the innate (ie, nonspecific) and adaptive (ie, specific) immune systems. Dendritic cells are important in initiating T-cell activation and responses.

Inflammasome

The inflammasome represents large intracellular protein complexes/platforms participating in the innate immune response that mediate the activation and recruitment of inflammatory cells to the affected site in the body by the release of proinflammatory mediators.

Inflammation

Inflammation is the normal response to stimuli including physical (eg, physical injury) and chemical stresses (eg, foreign substances in the body) that elicit cellular damage. The inflammatory process is characterized by distinct phases including initiation, the recruitment of cellular mediators and the release of inflammatory mediators, and contributes to tissue repair following injury. An inappropriate and/or prolonged inflammatory response that is not self-limiting can contribute to cellular damage.

M1 macrophages

Macrophages are cells that arise from differentiated monocytes that have migrated into tissue. They are phagocytes that have a function in both innate and adaptive immunity. As macrophages are technically phagocytes, they play a primary role in phagocytosing cellular debris and pathogens. The M1 macrophage refers to the classically activated macrophages that act as immune effector cells and are traditionally proinflammatory (ie, they produce and release a number of proinflammatory cytokines), and are activated in response to endotoxins such as lipopolysaccharide.

M2 macrophages

The M2 macrophage in general is a term to describe a macrophage that is not the classically activated M1 macrophage (ie. alternatively activated macrophage), often referring to those macrophages that are involved in wound healing and tissue repair. M2 macrophages are able to tone down immune system responses by the production of anti-inflammatory cytokines such as IL-10 and IL-13.

Oxidative stress

Oxidative stress in general is the deterioration in normal redox state primarily caused by an imbalance between pro-oxidants and anti-oxidants sufficient to induce modification/damage of macromolecules. This results in the production of peroxides and free radicals that are often toxic to cells by damaging DNA, lipids, and proteins.

Proteinuria

Proteinuria refers to the excess presence of serum proteins (eg, albumin) in the urine, and typically occurs following glomerular lesions.

Secretory phospholipase A_2 ($sPLA_2$)

The phospholipase A_2 family of enzymes specifically release fatty acids from the second carbon group of glycerol by hydrolysis of the sn-2 ester bond of phospholipids in cell membranes and circulating lipoproteins, resulting in the generation of arachidonic acid and lysophospholipids. $sPLA_2$ is the secreted, extracellular form of the enzyme, and has been shown to promote inflammation in the vasculature and to correlate positively with the incidence of coronary artery disease. $sPLA_2$ inhibition has thus been pursued as a target for the reduction of cardiovascular risk.