TNF, IL-1 and Other Parameters in Inflammation

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Innate and acquired immune responses are essential for humans to survive from the pathogen invasion. The generation of innate and acquired immune responses involves different immune cells, including T cells, B cells, monocytes/macrophages, and dendritic cells. In addition, both innate and acquired immune responses are critically regulated by cytokines/chemokines and certain immune-related growth factors. The induction of immune responses results in inflammation that sometimes can cause symptoms and tissue damages in certain human inflammatory autoimmune and rheumatic diseases. Recent studies have revealed the important role of various immune cells and cytokines/factors in mediating the pathogenesis of different inflammatory autoimmune and rheumatic diseases. In this talk, I will briefly review the cellular and molecular pathogenesis of certain important autoimmune and rheumatic diseases, especially emphasizing on the important role of Th17 cells and cytokines/factors in mediating the pathological process of inflammatory diseases. Certain cellular and molecular components of the inflammation process have been the targets for designing therapeutic biologic agents to treat various autoimmune and rheumatic diseases. The use of recently developed biologic agents in treating autoimmune and rheumatic diseases will be also reviewed.