

## Editorial: Immune Dysregulation in Diseases



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**T**oday, only a few diseases have remained that their pathology is not somehow affected by dysregulation in immune responses. Extensive literature review reveals that footprints of dysregulation in the immune response are seen in nearly all diseases, including autoimmune diseases, allergies, infections, cancers, even pulmonary, cardiovascular, dermal, ocular, otorhinolaryngological, and gynecological diseases as well as psychological disorders.

It is not always easy, except in congenital or primary immunodeficiency disorders, to judge the primary or secondary nature of this dysregulation; however, what is certain is that resolving or reversing this immune response dysregulation helps a lot in treating the disease and patient's recovery. Therefore, identifying different mechanisms in immune responses in health or, in other words, recognizing different patterns of immune dysregulation can help in protecting individual's health and preventing the disease as well as improving pathological conditions by resetting these responses and restoring balance in the immune system.

In some cases like autoimmune diseases, the production of autoantibodies in response to autoantigens are responsible for dysregulation of the immune system. These kinds of diseases are not easy to treat or control. In many cases, however, deterioration of cells and cytokine networks is responsible for this dysregulation, such as

the imbalance between Th1 and Th2 cells, between regulatory T cells and Th17 cells, M1 and M2 macrophages as well as alteration of inflammatory and regulatory DC and the level of inflammatory cytokines in innate immune responses that are reported in some autoinflammatory diseases.

Each of these patterns may be detected in a variety of diseases, so it may be possible to treat many diseases by finding adjustment keys of those patterns and restoring their balance. Because of the importance of this subject, our future issues will explain each of these patterns and related diseases, separately and in detail.

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