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Letter to Editor Open Access

Commentary on Auto Immunodeficiency Diseases

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Common variable immunodeficiency is an uncommon primary B-cell immunodeficiency condition characterised by multisystem problems due to weakened humoral immunity [1]. Is characterised by a paradoxical predisposition to a wide spectrum of autoimmune and neoplastic consequences, as well as inadequate adaptive responses to pathogen exposure. Primary immunodeficiency diseases are a diverse set of illnesses characterised by an increased vulnerability to recurring, severe infections. Invasive fungal infections have a high morbidity and mortality rate, which is a major concern. Various fungal infections among Primary immunodeficiency diseases patients are described in this paper. Infected patients with the human immunodeficiency virus have low CD4 lymphocyte counts and are vulnerable to a variety of bacterial, viral, and fungal diseases [2-3]. In addition to a wide spectrum of systemic manifestations, people infected with the human immunodeficiency virus have a number of distinct oral manifestations. Some oral symptoms have been linked to CD4 lymphocyte counts, which can be used as an independent prognostic predictor in studies. Several medications have been discovered and implemented to combat the human immunodeficiency virus. Patients with human immunodeficiency virus are given highly aggressive antiretroviral therapy, which includes a mix of antiretroviral regimens. According to studies, in addition to reducing viral activity, the treatment regimen has a substantial impact on the oral symptoms of patients infected with the human immunodeficiency virus. Infection, autoimmune diseases, and inflammatory disorders are all more common in people with Primary Immunodeficiency Disease. Although cognitive impairment, often known as brain fog, has been recorded in people with different medical problems and as a side effect of medications, it has never been described in people with Primary Immunodeficiency Disease. Patients with suspected primary immunodeficiency illnesses now get genetic testing as part of their diagnostic evaluation. Genetic testing results can have a significant impact on clinical care decisions. As a result, clinical providers must be capable of analysing genetic data. Primary immunodeficiency diseases are a set of hereditary disorders that impair several immune system components. Infection and non-infectious consequences, including autoimmune, are common in people with primary immunodeficiency disorders.

Autoimmune diseases are caused by the over activity of the immune system towards self-constituents. Risk factors of autoimmune diseases are multiple and include genetic, epigenetic, environmental, and psychological. Autoimmune chronic inflammatory bowel diseases, including celiac and inflammatory diseases (Crohn's disease and ulcerative colitis), constitute a significant health problem worldwide. Besides the complexity of the symptoms of these diseases, their treatments have only been palliative [4]. Numerous investigations showed that natural phytochemicals could be promising strategies to fight against these autoimmune diseases. In this respect, plant-derived natural compounds such as flavonoids, phenolic acids, and terpenoids exhibited significant effects against three autoimmune diseases affecting the intestine, particularly bowel diseases subset of monogenic bacteria Mutations in genes involved in the regulation of immunological tolerance and immune responses cause primary immunodeficiency disorders. Primary immunodeficiency diseases are a diverse set of rare immunological disorders that are caused by genetic mutations. For decades, effective treatments involving hematopoietic stem cells or pharmacological agents have been available. Nowadays, the clinical treatment for inflammatory bowel diseases is mainly based on drugs and surgery. In addition, research findings revealed that natural products found in fruit and vegetables could suppress the production of pro-inflammatory cytokines, inhibit enzymes, down-regulate the immune response, and therefore participate in the prevention of chronic inflammatory intestinal diseases. Based on the preceding discussion, this review aimed to identify the different risk factors involved in the genesis of chronic inflammatory autoimmune disorders affecting the digestive tract and highlight the other natural substances that play a significant role in modulating the mechanisms implicated in the development of these pathologies [5]. The current pharmacological treatments include 5-aminosalicylate (5-ASA), compounds such as sulfasalazine and mesalamine), corticosteroids (such as cortisone and budesonide), immunomodulators (such as thiopurines and methotrexate), anti-TNF agents (such as infliximab, adalimumab, and golimumab), anti-integrins (Vedolizumab), and calcineurin inhibitors (cyclosporine), which are used to suppress inflammation and induce mucosal healing. These therapeutic approaches, however, are ineffectual for many individuals, partially due to the rarity of these Primary immunodeficiency diseases, which makes identification and treatment more difficult. Induced pluripotent stem cells may be able to help with these issues. The ability of Induced pluripotent stem cells to proliferate allows for the production of a large, steady supply of hematopoietic cells with the same genome as the patient, enabling for the development of new human cell models that can track cellular aberrations during pathogenesis and lead to new treatment development. Primary immunodeficiency diseases models based on patient Induced pluripotent stem cells have proved useful in finding abnormalities in the formation or function of a variety of immune cells, suggesting new molecular targets for experimental treatments. These models are still in their infancy, and for the most part, they have replicated results from previous animal or primary cell models.

Conflict of interest

The author declare no conflict of interest.

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