

Abstract

Vitamin D is known for its role in the regulation of the metabolism of minerals in the body. Its deficiency is mainly associated with rickets and osteomalacia, characterized by defects in bone growth and development. However, the limits of this hormone's action extend much further. It can influence the differentiation of immune cells, thereby regulating the immune response and cell proliferation. After the discovery of its immunoregulatory functions, vitamin D became a hot candidate for the treatment of autoimmune diseases, such as multiple sclerosis, systemic lupus erythematosus, or diabetes mellitus. Furthermore, vitamin D was found to exhibit a suppressive effect on cancer cells. Vitamin D deficiency is a risk factor associated with the development of encephalomyelitis, schizophrenia, autism, and cardiovascular diseases. Currently, vitamin D analogs are being developed that are just as effective but do not affect calcium metabolism, thus eliminating the toxic effect of high doses of vitamin D.

Key words: vitamin D₃, 25-hydroxyvitamin D₃, 25(OH)D₃, cholecalciferol, 1 α ,25-dihydroxyvitamin D₃, 1,25(OH)₂D₃, calcitriol, immunity, immunoregulatory function, vitamin D deficiency, autoimmune disease