

Vitamin D in Heart Failure

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Abstract

Evidence linking vitamin D to cardiovascular (CV) health has accumulated in recent years: numerous epidemiologic studies report deficiency as a significant CV risk factor, and rodent models suggest that active vitamin D can modulate critical remodeling processes, including cardiac hypertrophy and extracellular matrix remodeling. The presence of vitamin D signaling machinery within the human heart implies a direct role for this hormone in cardiac physiology and may explain associations between vitamin D status and CV outcomes. Heart failure (HF) represents a growing social and economic burden worldwide. Myocardial remodeling is central to HF development, and in the context of emerging evidence supporting mechanistic involvement of vitamin D, this review provides critical appraisal of scientific literature related to the role of vitamin D in CV disease, including data from epidemiologic and supplementation studies, as well as novel findings from animal models and in vitro work. Although associative data linking vitamin D and CV outcomes and evidence supporting a role for vitamin D in relevant pathogenic processes are both substantial, there are limited mechanistic data to indicate vitamin D supplementation as a viable therapeutic adjunct for the prevention of HF development following myocardial injury.

Key Words: [Vitamin D](#), [heart failure](#), [remodeling](#)

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

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