

ABSTRACT

Title: Is severe Vitamin D Deficiency an independent risk factor for critical limb ischemia of patients diagnosed to have peripheral arterial occlusive disease?

Hypothesis: Vitamin D is not a risk factor in peripheral arterial occlusive disease

Background: The role Vitamin D in metabolic homeostasis is well understood as it is required to maintain normal levels of calcium and phosphates. The Vitamin D receptors (VDR) are also present in the heart and blood vessels. In animal studies, absence of vitamin D receptors causes cardiovascular disease. Critical limb ischemia is a severe form of peripheral arterial occlusive disease (PAOD) which includes rest pain, tissue loss in the form of ulcer and gangrene. Medical therapy and surgical revascularization are the best options of treatment for limb salvage.

Methods: This was an observational crosssectional study. Patients with atherosclerotic PAOD were classified into claudicants and critical limbs. Their serum Vitamin D levels were checked after informed consent. The results were analyzed using inferential statistics.

Results: There were 50 claudicants and 50 patients with critical limb ischemia. 80% were men and 20% were women. There was statistically significant difference of severe vitamin D deficiency in the critical limbs compared to the claudicants (32.7%, 14% ($p=0.004$)). Low ankle brachial index (<0.4) was related with severe vitamin D deficiency.

Conclusions: Severe vitamin D deficiency is an independent risk factor in critical limb ischemia.