

# Association of Vitamin D Deficiency with Acute Myocardial Infarction in Iraqi Patients

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**Citation:** *European Cardiology Review* 2020;15:e29. **DOI:** <https://doi.org/10.15420/ecr.2020.15.1.PO6>

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**Background:** Globally, coronary artery disease (CAD) and its complications, such as acute myocardial infarction (AMI), are the leading cause of morbidity and mortality. Vitamin D deficiency is a prevalent condition and it is emerging as a new risk factor for CAD. However, the correlation between vitamin deficiency and an increased risk of developing cardiovascular disease remains elusive.

**Aim:** To determine the association between vitamin D deficiency with AMI among the Kurdish population in relation to age and sex. Vitamin D deficiency was defined as a serum 25-hydroxy vitamin D concentrations  $\leq 20$  ng/ml. The role of vitamin D in the development of AMI could be pivotal.

**Method:** In a case-control study, a total of 222 patients (153 men and 69 women; age 22–80 years) with AMI and a control group of 225

sex- and age-matched non-CAD individuals were enrolled. The serum vitamin D concentrations were measured by enzymatic immunoassay.

**Results:** A highly significant level of vitamin D deficiency was observed in AMI patients (95.9%), compared to the control group (78.4%). It was observed that 67.6% were severely vitamin D deficient (0 to  $<10$  ng/ml) and 4.1% were insufficient. Furthermore, the prevalence of vitamin D deficiency was greater in male AMI patients than female AMI patients.

**Conclusion:** The findings of this study show that vitamin D deficiency is strongly associated with the development of AMI. We conclude that vitamin D deficiency is an important new emerging risk factor for CAD. These results imply that supplementation of vitamin D may be important in maintaining cardiovascular health. ■