

A Case Series on Isolated Lead aVR ST-Segment Elevation Clinical Significance and Outcome

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Abstract : Background: One of the least significant leads on a 12-lead electrocardiogram is the augmented right lead (aVR), as it is not as specific compared to the other leads. In this case series, the value of lead aVR, which is more often than not ignored, is highlighted. Three cases of aVR ST segment elevation on 12-lead electrocardiogram are described, with the end outcome of demise of all three patients. The importance of immediate revascularization is described to improve prognosis in this group of patients. Objectives: This case series aims to primarily present under-reported cases of isolated aVR ST-segment elevation myocardial infarction (STEMI), their course and outcome. More specific aims are to identify the criteria in determination of isolated aVR STEMI, know its clinical significance, and determine appropriate management for patients with this ECG finding. Method: A short review of previous studies, case reports, articles and guidelines from 2011-2016 was done. The author reviewed available literature, sorted out those that proved to be significant for the presented cases, and described them in conjunction with the aforementioned cases. Findings: Based on the limited information on these rare or under-reported cases, it was found that isolated aVR STEMI had a poorer prognosis that led to significant mortality and morbidity of patients. The significance of aVR ST-elevation was that of an occlusion of the left coronary artery or a severe three-vessel disease in the presence of an Acute Coronary Syndrome. Guidelines from American Heart Association/American College of Cardiology Foundation in 2013 already recognized ST-elevation of lead aVR in isolation as a STEMI; hence, recommended that patients with this particular ECG finding should undergo reperfusion strategies to improve prognosis. Conclusion: The indispensability of isolated aVR ST-segment elevation on ECG should alert physicians, especially Emergency physicians, to the high probability of Acute Coronary Syndrome with a very poor prognosis. If this group of patients is not promptly managed, demise may ensue, with cardiogenic shock as the most probable cause. With this electrocardiogram finding, physicians must be quick to make clinical decisions to increase chances of survival of this group of patients.

Keywords : AVR ST-elevation, diffuse ST-segment depression, left coronary artery infarction, myocardial infarction

Conference Title : ICEM 2017 : International Conference on Emergency Medicine

Conference Location : Dubai, United Arab Emirates

Conference Dates : November 24-25, 2017