

Case Report

Ventricular Tachycardia – Life Threatening Cardiac Arrhythmia – A Case Report

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Abstract

Ventricular tachycardia (VT) & ventricular fibrillation (VF) are the most common immediate life threatening complications after acute myocardial infarction. These complications occur in about 5-10% of patients who admitted in hospital and are thought to be the major causes of death who die before reaching hospital and to take medical attention. Immediate defibrillation will usually restore sinus rhythm. Prompt pre-hospital resuscitation and defibrillation can save many more lives. Our patient, Mr. Abdul Malek, aged about 55 years, hailing from west Naodoba, Jajira, Sariotpur, non-hypertensive, non-diabetic, smoker was admitted in MMW, FMCH on 23/03/10 with the complaints of chest discomfort, shortness of breath, sweating and vomiting. During admission his pulse and BP was non-recordable, ECG shows VT. Immediately the patient was transferred to CCU from MMW. Patient was kept in cardiac monitor and arranged for DC shock. After giving 200 joules DC shock patient reverted to sinus rhythm. His pulse was recordable and reasonable blood-pressure was regained. Then the patient was treated with anti-platelets, anti-coagulant, nitrates and prophylactic iv Lignocaine. Subsequently oral anti-arrhythmic drug Amiodarone was started. The recovery of the patient was un-eventful and was discharged after 10 days without any further complication.

Introduction

Ventricular tachycardia (VT) is a life threatening complication in a patient with coronary artery disease¹. Patients manifested as VT with haemodynamic stability and as VT with haemodynamic instability. The latter group is more serious. The need management with defibrillation, without which, immediate death may occur. VT occurs due to reentrant arrhythmias arising from scars in myocardium and from viable myocardium. This paper reports on a fatal case of VT who was haemodynamically unstable and immediate defibrillation saved his life.

Case Report

Mr. Abdul Malek, aged about 55 years, S/O late Abdus Sattar, hailing from west Naodoba, Jajira, Sariotpur, non-hypertensive, non-diabetic, smoker was admitted in MMW, FMCH on 23/03/10 with the complaints of chest discomfort, shortness of breath, sweating and vomiting. During admission his pulse and BP was non-recordable,

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Figure 1: Photograph of the patient

Patient was in grave condition. ECG shows signs of VT. On admission patient was given – O₂ inhalation, I.V fluid, tab disprin (300 mg), clopidogril (300 mg), sublingual nitrates, trimetazidine and atorvastatine. On the same day after a while patient was shifted to CCU from MMW. On arrival at CCU pulse and BP was non-recordable. . Patient was kept in cardiac monitor.

Monitor shows signs of VT. Heart rate was 220/minute. Immediately the patient was prepared for DC shock. DC shock of 200 joules administered immediately. Fortunately after DC shock, patient reverted to sinus rhythm. His heart rate was 90/minute, regular and BP was-100/70mm of Hg. Patient regained consciousness. After these measures along with anti-ischemic, anti-coagulant and anti-platelet therapy, prophylactic IV lignocaine was started in a dose of 2mg/min and continued for 12 hours. Meanwhile oral amiodarone

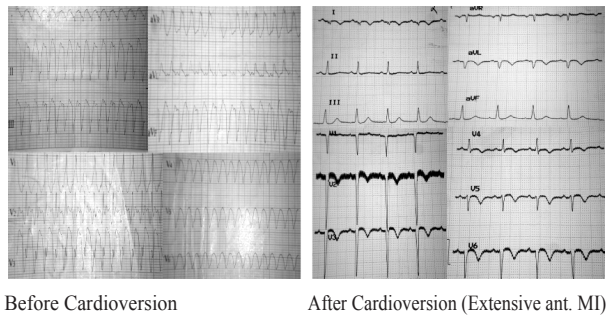


Figure 2: ECG shows VT.



Figure 3: X-ray chest showing cardiomegally

200mg BD started. Immediately after reversion to sinus rhythm 12 leads ECG was done which shows acute extensive anterior MI. After these measures, patient was quite symptom free and haemodynamically stable.

Among the risk factors –patient was smoker and there was strong family history of ischaemic heart disease. He was non-diabetic and non-hypertensive. Investigations revealed: ECG- polymorphic VT (initial) & AMI (extensive anterior) after reversion to sinus rhythm; X-ray chest P/A view: shows cardiomegally; RBS- 5.4 mmol/dl; Blood Urea -33mg/dl; S. Creatinine- 1mg/dl; Lipid profile-Total cholesterol-280mg/dl, HDL cholesterol-40mg/dl, LDL cholesterol-130mg/dl, TG 300mg/dl.

Patient was discharged with unique recovery on 02/04/10 with aspirin, clopidogrel, nitrates, lipid lowering agent, amiodarone, and was advised to come for follow up after 2 weeks.

Discussion

Ventricular tachycardia (VT) & ventricular fibrillation (VF) are the life threatening, grave cardiac arrhythmias in patient with ischaemic heart disease. Most of the immediate death occurs after acute MI is due to VT and

VF. Besides MI, VT and VF may occur due to hypertrophic cardiomyopathy, dilated cardiomyopathy, Chagas disease, Duchenne muscular dystrophy, renal failure and in elderly patient². But they most commonly seen in IHD, specially after acute MI. Malignant ventricular arrhythmia in CAD may be dynamic, e.g. plaque rupture that cause acute ischaemia, which results in polymorphic VT and VF³. Frequent manifestations of ventricular arrhythmias in CAD occur as a consequence of re-entrant arrhythmias arising from fixed substrate composed of scar and residual viable myocardium⁴. Immediate management of VT and VF is by defibrillation and subsequent anti-arrhythmic drugs. The long term treatment and prevention of VT and VF are by coronary revascularization. The interventional method is PCI with stent implantation. Surgical management is by CABG⁵. Surgical strategies for patient with CAD with VT, in association with left ventricular aneurysm and myocardial scar, are removal of the areas of sub-endocardial extensive scar tissues and ventricular aneurysm⁶. Other prophylactic interventional treatment is implantation of ICD (Implantable Cardioverter Defibrillator) and to a lesser extent electrophysiological mapping and catheter ablation⁷.

Conclusion

Most of the immediate death occurs after acute MI is due to life threatening VT and VF. Many patient die before reaching the hospital. So, pre-hospital resuscitation by Basic Life Support is very important and can save many lives. So, general people, field workers in health sector, ambulance drivers, bus and train drivers should be trained up regarding Basic Cardiac Life Support. Our primary and secondary health centers should be well equipped for resuscitative measures by adopting Advanced Cardiac Life Support.

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