CASE REPORT ON DILATED CARDIOMYOPATHY WITH LEFT VENTRICULAR ASSIST DEVICES

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ABSTRACT

Dilated cardiomyopathy is a heart muscle disorder defined by the presence of a dilated and poorly functioning left ventricle in the absence of abnormal loading conditions (hypertension, valve disease) or ischemic heart disease .Aim of the article is to present a case of Dilated cardiomyopathy and A 45 year old male reported with a chief complaint chest pain, palpitation and sweating .He was treated with surgical procedure of left Ventricular assist devices and pharmacological treatment with Diuretics, inotropic agents, afterload reducing agents and beta-blockers

Keyword:- *Dilated cardiomyopathy, left ventricle, beta-blockers*

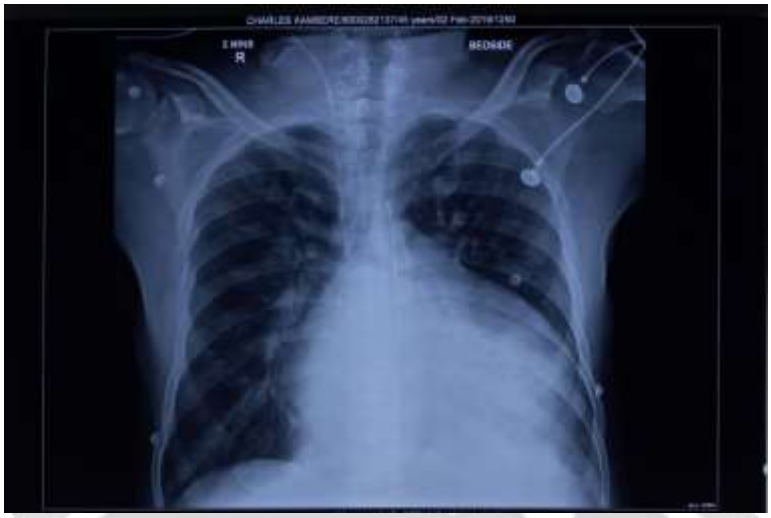
INTRODUCTION

Dilated or congestive cardiomyopathy (DCM) is diagnosed when the heart is enlarged (dilated) and the pumping chambers contract poorly (usually left side worse than right). A large number of cardiac and systemic diseases can cause systolic impairment and left ventricular dilatation, but in the majority of patients no identifiable cause is found—hence the term "idiopathic" dilated cardiomyopathy (IDC). There are experimental and clinical data in animals and humans suggesting that genetic, viral, and immune factors contribute to the pathophysiology of IDC.

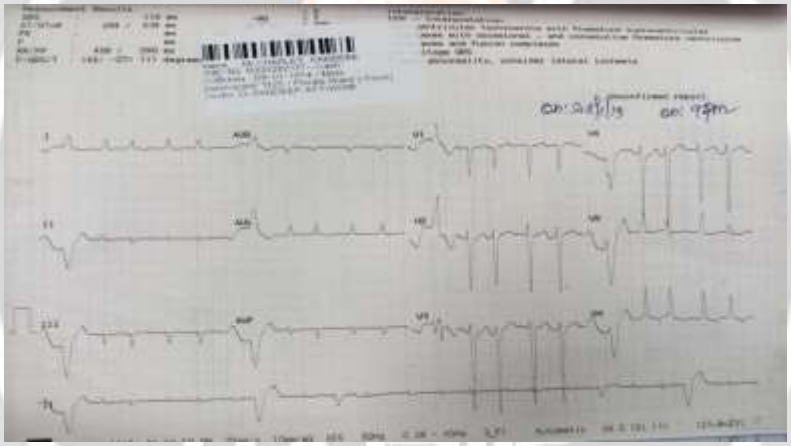
CASE REPORT

A 45 years old male reported to the with a chief complaint chest pain, palpitation and sweating . He was treated with surgical procedure of left Ventricular assist devices and pharmacological treatment with Diuretics, inotropic agents, afterload reducing agents and beta-blockers In medical history, physical examination, Chest x ray and USG-findings reveled that there is a dilated cardiomyopathy . in chest x-ray it shows increased cardiothoracic ratio ,There is a dilation of left ventricles and 2D Echo shows hypo kinetic ,2/3rd left ventricular dysfunction, EF- 35%.ECG- shows there is It shows sharp and length QRS segment indicates left ventricular hypertrophy

Chest X-ray



ECG



He was treated under a expert guidance and surgical procedure of left Ventricular assist devices and pharmacological treatment

DISCUSSION:

Dilated or congestive cardiomyopathy (DCM) is diagnosed when the heart is enlarged (dilated) and the pumping chambers contract poorly (usually left side worse than right). It can have both genetic and infectious/environmental causes. It is more commonly diagnosed in younger children with the average age at diagnosis being 2 years. Dilated cardiomyopathy can be familial (genetic), and it is estimated that 20–30% of children with DCM have a relative with the disease, although they may not have been diagnosed or have symptoms.

Dilated cardiomyopathy can appear along a spectrum of no symptoms, subtle symptoms or, in the more severe cases, congestive heart failure (CHF), which occurs when the heart is unable to pump blood well enough to meet the body tissue needs for oxygen and nutrients. congestive heart failure can manifest as difficulty breathing and/or coughing, pale color, decreased urine output and swelling, excessive sweating, and fatigue with minimal activities. Until the diagnosis is made in many children, chronic coughing and wheezing, particularly during activities, can be misinterpreted as asthma. Some patients with DCM caused by viral myocarditis (weakened, enlarged heart muscle usually due to a viral infection) can have a rapid increase in the number and severity of CHF symptoms such that within 24–48 hours the child can become very ill requiring emergency hospitalization, and occasionally, advanced life support. Symptoms due to heart rhythm problems (or arrhythmias, which means irregular, fast or slow heart rates) can also be either the first symptom or a symptom that appears after other symptoms have led to a diagnosis of DCM. Symptoms of rhythm problems include palpitations (feeling of funny or fast heart beats), syncope (fainting), seizures (convulsions), or even sudden cardiac arrest (heart stops beating effectively requiring resuscitation). These symptoms can occur at any age and with any stage of cardiomyopathy. Once there is clinical suspicion based on the patient history and physical exam, the diagnosis of DCM is primarily based on echocardiography. With this test, physician will be using ultrasound beams to evaluate the heart looking for dilated chambers and decreased pump function. Along with the echocardiogram, there are other tests that will likely be done to confirm the diagnosis or provide clues as to the cause. A chest X-ray will show the heart size and can be used as a reference to follow increases in heart size that may occur over time. An electrocardiogram, or EKG, records the electrical conduction through the heart and is used to look for evidence of thickened or enlarged chambers as well as abnormal heart beats. A treadmill test can also be useful who can cooperate. This may include testing for certain viral infections such as adenovirus and the Coxsackie viruses as they have been associated with DCM especially in younger children. In many cases, no cause is discovered, and the cardiomyopathy may be referred to as “idiopathic” (cause unknown). Many heart failure specialists believe this “idiopathic” form of the cardiomyopathy is genetic. While genetic screening has not yet become a standard procedure, some physicians may send blood to molecular testing labs located in a few centers around the country so that limited genetic testing can be performed looking for possible mutations currently known to cause dilated cardiomyopathy. If physicians believe the cause is genetic (especially common in older children and adolescents), evaluation, usually with echo, of other family members is recommended to rule out presence of this disease in other close relatives (parents, siblings). Finally, in more advanced cases of DCM, cardiac catheterization may be performed. During this procedure, a catheter (thin plastic tube) will be slowly advanced through an artery or vein into the heart (while watching its course on a TV monitor) so that pressures within the heart chambers can be measured. A cardiac biopsy, which involves removing tiny pieces of heart muscle for inspection under the microscope, may be performed to help distinguish between infectious and genetic causes.

Ventricular assist devices (VADs) are mechanical pumps that are surgically implanted on the heart to help it pump blood to the rest of the body. They are used in patients with a weakened heart or heart failure to temporarily maintain heart function before receiving a heart transplant, or until the heart’s function recovers. VADs may also be used as a permanent support therapy. As with all surgical procedures, VAD implantation has several risks. However, the procedure may be lifesaving and can significantly improve a patient’s quality of life. A VAD helps maintain the heart’s function by pumping blood from one of the heart’s major chambers to one of the major arteries exiting the heart to the rest of the body. It generally consists of a pump, which is implanted inside or stays outside the body; an inflow tube attached to the heart; an outflow tube attached to one of the major arteries; a line which carries electrical cables from the pump to a controller outside the body; and a power source. This power source may be connected to an electrical outlet or to rechargeable batteries, which allows the patient to be mobile.

CONCLUSION

I would like to state that patients started with a chief complaint chest pain, palpitation and sweating .He was treated with surgical procedure of left Ventricular assist devices and pharmacological treatment with Diuretics, inotropic

agents, afterload reducing agents and beta-blockers. Despite the associated risks, VAD implantation can be lifesaving for a patient with severe heart failure, can often resolve or minimize symptoms of heart failure, and can allow patients to resume most daily activities. With regular follow-up to monitor VAD function and to enable early detection of any complications, VADs can give patients with heart failure a significantly improved quality of life.