AORTIC DISSECTION
A CASE REPORT

✍ *Lt. Col. Dr. Rajeev Pandey, MD, FN*
Consultant Physic
✍ *Col. Dr. Swasti B. Bajracharya, MD*
HOD Deptment of Medicine
✍ *Dr. Manil Bajracharya, MD Resident*

Introduction

Acute dissection of the thoracic aorta is not very common, with the incidence in the US being 2000 cases per year. If unrecognized and untreated in time, the mortality may be up to 2% per hour and 90% within the first week. For the patients with confirmed dissection of the ascending aorta, emergency surgery may be life saving but for those patients in whom the ascending aorta is not involved, the initial management would be aggressive control of blood pressure with surgery being considered at a later stage if the condition deteriorates or produces ischemic complication.

Case report

A previously healthy 39 years old female presented with shortness of breath, palpitations and painful tearing sensation in the retrosternal region of sudden onset about two months back. At present she has dyspnea on exertion. She also had cough with whitish sputum. There was no other significant past history.

On examination, her BP was 100/30 mm Hg, pulse was of high volume regular with a rate of 102 beats per minute. There was mild degree of pallor and oedema. Cardiovascular system revealed a normal precordium with apex beat not visible. Apex beat, on palpation w found to be at 6th ICS outside the mid clavicu line. On auscultation, there was systolic murm at the apex rediating to the axilla and there w a high pitched diastolic murmur at the 2nd aor area. There was also bilateral crepitations in t basal lung field. Hemoglobin was found to 9.7gm/dl. ECG showed normal axis, regul rhythm with a heart rate of 110 per minute. The was also poor R wave progression with T wa inversion in leads V4 - V6. Chest X-ray show enlarged cardiac shadow. Transthorac echocardiography showed hypokinetic poster wall, inferior wall and lateral wall. LVEF w 40%. The echo showed normal va morphology with non-coartation of aortic c with severe AR, moderate MR. The aortic root w dilated and there was an intimal flap posterior NCC. On the basis of echo findings t possibility of aortic dissection was kept in m and the patient was subjected to CT-Angio, wh revealed 'type A' dissection of Aorta. The pati was treated with ACE-I and low dose diuret and referred to Gangal Lal National He Center for the possibility of surgic intervention. She was evaluated there a advised for surgery, the process of which underway.

Discussion

Acute dissection of the thoracic aorta is usually caused by circumfrential tear of the intima although in some cases it might be due to transverse tear of the intima. This dissection is usually seen in the right lateral wall of the ascending aorta, the next most common site being the descending thoracic aorta just below the ligamentum arteriosum. The disease may be caused by a primary intimal tear with secondary dissection into the media resulting in the formation of a false lumen or it might be due to the rupture of vasa vasorum within the aortic media leading to the formation of an intramural haematoma. Among the most common factors that predisposes the patient to an aortic dissection , hypertension accounts for almost 80% of the cases . Collagen disorders like the Marfan's syndrome and Ehlers-Danlos syndrome are also closely associated with aortic dissection.

The classification of the types are based upon the location and the extent of the aortic involvement and there are three major classification system. (1) Debakey types I ,II and III (2) Stanford types A and B (3) the anatomical categories "proximal " and "distal ".

The peak incidence is usually in the sixth and seventh decade , with a male to female ratio of 2:1. The clinical manifestation may vary from consequences of intimal tear to compression of adjacent tissues . The pain of acute dissection of the aorta is usually of sudden onset , very severe , pulsatile and tearing in nature , the location of the pain being either in the anterior thorax or back , with the pain propagating along the course of dissection through the thorax . Other symptoms may be syncope , dyspnea and weakness . Patient may present in a state of shock or they may have other signs like hypertension, aortic regurgitation , pulmonary odema. Other uncommon presentations include stroke and limb ischemia, myocardial ischemia, hematuria etc. There may also be features of superior vena caval syndrome, hoarseness of voice, dysphagia etc. Acute aortic regurgitation is an important and common complication of proximal dissection.

In the chest x-ray , there might be mediastinal widening with pleural effusion . ECG may show features of LVH in a

Commonly used classification systems

TYPE	DESCRIPTION
Debakey	
I	Originates in the ascending aorta, propagates at the least to the aortic arch and often beyond it distally.
II	Originates in and is confined to the ascending aorta
III	Originates in the descending aorta and extend distally down the aorta or , rarely , retrograde into the aortic arch and ascending aorta
Stanford	
Type A	All dissections involving the ascending aorta , regardless of the site of origin
Type B	All dissections not involving the ascending aorta

hypertensive patient or show no evidence of myocardial ischemia , which is helpful in distinguishing aortic dissection from the myocardial infarction . CT and MRI are highly sensitive non invasive methods of investigation with a sensitivity and specificity of 90% . Transthoraic echocardiography yields a sensitivity with a range of 60-85% while transoesophageal echocardiography has a sensitivity of more than 90%. Aortagraphy may also be used for diagnosis but non invasive methods have become the choice of diagnostic procedures these days.

Once the diagnosis is considered , medical therapy should be started immediately in an intensive care unit , the aim of such therapy being to reduce the cardiac contractility and systemic arterial pressure . Commonly use drugs are Beta -blockers and in severe case sodium nitroprusside. Patients wit ascending aortic dissections type A an complicated type B dissections requir urgent surgery For patients with treate dissections the 10 year survival rate is aroun 60%.

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