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CASE REPORT

ACUTE DISSECTING ANEURYSM OF AORTA

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INTRODUCTION

This disorder is usually associated with medial degeneration of the aortic wall. This may be associated with Marfan syndrome or other collagen connective tissue disorders such as Ehlers Danlos disease.

Dissection is classified as acute if it has been present less than 30 days or chronic if it has been present for longer. The dissection is also classified according to the site of intimal tear and to the degree of aorta involved. Using the DeBakey classification, type I and type II dissection begins just distal to the ostia of the coronary arteries and involves the ascending aorta. Type I dissection also extend into the thoraco-abdominal aorta. Type III dissection begins just distal to the left subclavian artery and usually involve only the thoraco abdominal aorta, although on occasion they may extend in a retrograde fashion to involve the arch and ascending aorta.

Iatrogenic dissection, caused by trauma from intra-aortic manipulation with endovascular devices, now occurs more frequently than in the past.

CASE REPORT

A 65 years old man presented with severe chest pain, started suddenly and knocked him down in seconds. He became pale and clammy. He was brought to a local general practitioner and so referred to the cardiology department, LRH, Peshawar.

On examination the patient was in shock clinically. His BP was 100/70. His right arm pulses were absent. He had a short early diastolic murmur on pre-cordial examination. A provisional diagnosis of acute aortic dissection was made. A plain X-ray chest was unremarkable. Initial ECG showed no specific ST-T changes but later on he developed changes of inferior wall myocardial infarction.

Transthoracic Echocardiogram was normal. Continuous wave Doppler confirmed mild aortic regurgitation. Transesophageal echo confirmed the diagnosis of aortic dissection and showed a dissecting flap in the ascending part of aorta. Later on he died during operation.

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DISCUSSION

Acute aortic dissection[1] is a lethal disease comes with sudden development of a tear in the aortic intima, opening the way for a column of blood driven by the force of arterial pressure to enter the aortic wall, destroying media and striping intima from the adventitia for variable distance.

DeBakey classified dissection into three types. Type I and II begins in the ascending aorta. Type I extends beyond the ascending aorta and arch where type II is confined to the ascending aorta. Type III originates in the descending thoracic aorta and usually propagates distally for a variable distance.

Degeneration of aortic media is believed to be the pre-requisite for development of aortic dissection. Although medial degeneration is part of the normal ageing process, these changes are greater in patients with dissection. Cystic medial degeneration is an intrinsic feature of Marfan and Ehlar-Danlos syndrome. Certain congenital cardiovascular abnormalities especially coarctation of aorta and bicuspid aortic valve predisposes to dissection. There also exists a relationship between pregnancy and aortic dissection.

Aortic dissection affects man more than woman in a ratio of 2:1 and has a peak incidence in a sixth or seventh decade.

It presents with acute onset of severe chest pain, localized in the centre of the chest persists for many hours and often radiates to the back and sometimes to the leg. Often one or more than one major arterial pulses are absent. This pain should be differentiated from that of acute myocardial infarction; which comes gradually and increases with time as against dissection which is as severe as its inception as it ever becomes.

Less common mode of presentation includes congestive cardiac failure, cerebrovascular accidents, syncope, paraplegia and pulses loss with or without ischemic pain.

Diagnosis of aortic dissection is made on physical examination and on imaging techniques as:

1. Echocardiography
   a) Transthoracic
   b) Transesophageal[3]
2. CT Scan
3. MRI
4. Aortic Angiography

Echocardiography is a very helpful technique in the detection of proximal dissection by revealing a widened aortic root having intimal flap. Flap[6]

sometimes prolapses into left ventricle. Transesophageal[4 7] echo is very useful in detecting dissection in the descending aorta. One large multicentre study reported a sensitivity and specificity of 99 and 98 percent respectively with transesophageal echocardiography in the diagnosis of aortic dissection. Doppler color[5] flow imaging can identify aortic regurgitation and sites of communication between false and true aortic lunar. CT and MR! and other modes of investigations for diagnosis.

Aortic angiography[4] is a single most important tool in which contrast material is injected in aortic root.

Treatment is[1] dependent on the type of dissection. Involvement of ascending aorta is associated with high incidence of rupture into the mediastinum or into the pericardium, resulting in cardiac tamponade and with compromise of aortic valve function or coronary artery blood flow. Because of this urgent surgical repair is recommended. Using cardiopulmonary bypass and moderate hypothermia the aortic valve is repaired or replaced and the ascending aorta is corrected with a Dacron graft. It is usually possible to retain the sinus segment thus avoiding the need to re-implant the coronary arteries.

When only the thoraco-abdominal aorta is involved, the initial treatment is medical. Systolic blood pressure is controlled at a level of 100 mmHg by using intravenous sodium nitroprusside[8] or i/v beta blockers[9.]

Surgery is indicated for continued pain despite adequate blood pressure control, aortic dilatation or rupture, or compromise a perfusion to distal branches.

All patients must be treated with antihypertensive medication for life.

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