International Journal of Research in Medical Sciences
Khan F et al. Int J Res Med Sci. 2016 Aug;4(8):3644-3646
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20162347

Case Report

Stanford type B aortic dissection in a middle aged female in civil hospital Karachi, Pakistan

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Received: 19 June 2016
Accepted: 08 July 2016

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ABSTRACT

Aortic dissection is a potentially catastrophic illness that presents very rarely usually in sixth or seventh decade. There are two types of dissection; Stanford type A, which is treated surgically while type B is managed pharmacologically. Mortality is high for both types of aortic dissections. However, when an aortic dissection is detected early and treated promptly, the chance of survival greatly improves. It usually presents as a sharp tearing pain radiating to interscapular region but can also present atypically hence a high index of clinical suspicion is needed. We register a case a 50 year old female who was a known case of HTN presented with complain of dyspnea. On further investigation she was found to have aortic dissection involving descending aorta. She was managed conservatively but unfortunately died.

Keywords: Aortic dissection, Descending aorta, Stanford type B, Dyspnea, Atypical

INTRODUCTION

Aortic dissection is a life threatening condition described as disruption of the medial layer of the wall of the aorta provoked by intramural bleeding, resulting in separation of the aortic wall layers and subsequent formation of a true lumen and a false lumen with or without communication. It is much more common in males with a male to female ratio of 2:1 to 5:1. It is estimated to occur at a rate of 3 to 4 cases per 100,000 persons per year.[1] Aortic dissection is caused by a deterioration of the inner lining of the aorta. There are a number of conditions that predispose a person to develop defects of the inner lining, including high blood pressure, Marfan's disease, Ehlers-Danlos syndrome, connective tissue diseases, and congenital defects. A dissection can also occur accidentally following insertion of a catheter, trauma, or surgery.[2] The case we document here is an unusual case of aortic dissection Stanford type B who presented with shortness of breath.

CASE REPORT

A 50 year old lady known case of hypertension for last 15 years presented with shortness of breath and chest pain for last 2 years on exertion only and now occurring at rest for last 3 days. She also has a history of orthopnea and paroxysmal nocturnal dyspnea. For last 3 days she also developed mild chest pain.

On examination, her blood pressure was found to be 160/70 in right arm and 140/70 in left arm and pulse was 68 BPM and a diastolic murmur was auscultated in aortic area and rest of the systemic examination was insignificant. Initial investigations showed normochromic normocytic anemia with Hb of 10.4 g/dl, HCT of 30.9, WBC of 7.0×10e^3/uL. Her creatinine was 0.9 mg/dL,

BUN was 18 mg/dL and electrolytes were disturbed with Na of 137 mEq/L, K of 4.8 mEq/L, Cl of 103 mEq/L. INR was 0.8 while LFT was normal. Her troponin levels were negative. ECG showed q waves in lead 3 and hyper acute T waves. Initial CXR showed findings of pleural effusion and widened mediastinum (refer to Figure 1). On further evaluation CT scan revealed a false lumen formation in the descending aorta which started beneath the subclavian artery and extended up to the celiac trunk (refer to Figure 2). Echocardiography revealed mild symmetrically hypertrophic normal sized left ventricle with normal function, dissection flap in arch of aorta and diastolic dysfunction grade 1 (refer to Figure 3). She was then managed conservatively for her HTN by beta blockers (labetalol) and transaminase injections. She responded poorly to medications, got unstable overnight and died of ruptured aorta.

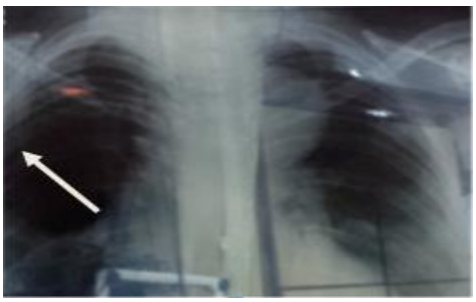

Figure 1: Chest X-ray shows prominent aortic knuckle and widened mediastinum.

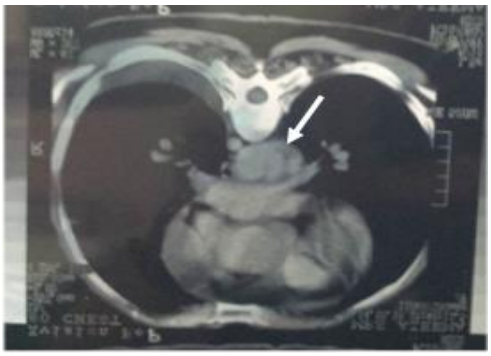

Figure 2: CT scan shows false lumen in aorta.

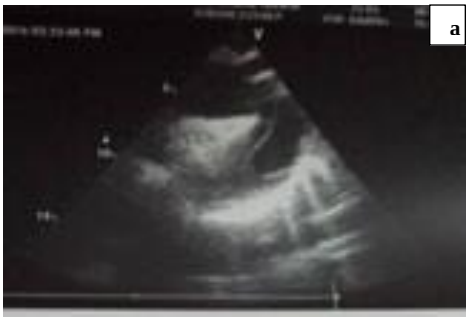

Figure 3a: Dissection flap in the aorta (arrow).

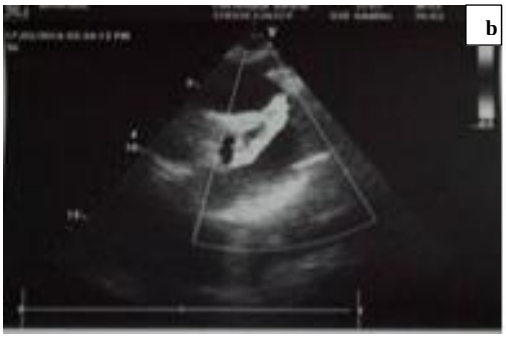

Figure 3b: The color Doppler shows a false lumen due to which there is no mixing of blood.

DISCUSSION

Aortic dissection is a grave condition involving the human aorta which needs early attention and prompt intervention for survival of patient as if left untreated, mortality rate increases. About 33% patients die in the first 24 hours and 50% within the next 48 hours.[3] Among various different scales of classification of aortic dissection, the most commonly being used is Stanford Classification. It includes type A which involves ascending aorta and arch, accounts for 60% of aortic dissections and requires surgical management. Other one is type B which involves descending aorta distal to subclavian artery, which accounts for 40% of aortic dissection and requires medical management with blood pressure control.[4,7] Our patient is a typical case of Stanford type B as imaging revealed dissection flap in the aorta distal to subclavian artery up to celiac trunk. There is little data available regarding aortic dissection Stanford type 2 and its management in Pakistan.

Descending aortic dissection typically presents with sharp interscapular tearing pain but our patients atypically presented with shortness of breath and, mild chest pain only. Therefore, one must keep aortic dissection in differentials when a subject comes up with such clinical presentation, as the diagnosis of aortic dissection gets neglected in about 38% of cases.[5] Considering the suspicion, CT scan and transesophageal echocardiography are investigations of choice. Dissections may complicate into life-threatening rupture with hemorrhage, leading to sudden death which is exact what happened in our patient. Population-based studies suggest an incidence of thoracic aortic rupture of 3.5 per 100,000 persons with an aged population playing a significant role. The most important predisposing factor for aortic dissection is hypertension.it coexists in 70-90% in most cases and is more common in distal than in proximal dissections.[6]

We tried to manage our patient with antihypertensive (labetalol and hydralazine, amlodipine). Initially our patient responded well to the given medications and was stable for about a week after which she failed to respond

to the above mentioned medications and expired secondary to aortic rupture.

CONCLUSION

Hence, the above mentioned data concludes that aortic dissection should be kept in differentials whenever a patient with chronic hypertension presents with such atypical findings as hypertension itself is the most common risk factor. Once a clinical suspicion is raised, reliable modalities such as CT scan and transechocardiography should be carried out immediately. Patient with Stanford type b require close blood pressure monitoring. Medical management of uncomplicated type B increasingly becomes the standard of care due to availability of potent beta blockers and the lower mortality as compared to surgical approach for type A. Even after prompt monitoring and management, aortic dissection can insidiously lead to rupture which is fatal.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Khan F, Akhtar S, Zaidi SR. Stanford type B aortic dissection in a middle aged female in civil hospital Karachi, Pakistan. Int J Res Med Sci 2016;4:3644-6.