AORTIC DISSECTION - A CASE REPORT

Osalusi B.S.

Neurology Unit, Department of Medicine, Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State, Nigeria.
E-mail – sanyabamidele@yahoo.com, Tel: 2348033063521

Accepted 30 June, 2014

The continuous exposure of aortic intimal to shear pressure of persistently elevated blood pressure in hypertensives with poor drug compliance, may lead to several complications including acute aortic dissection. We report a 51- year- old patient in whom the only clinical presentation of aortic dissection was severe low back pain occurring during sexual activity, although hypertension was present as a risk factor, We discuss the relationship between severe low back pain and aortic dissection. To our knowledge, this is the first report of aortic dissection occurring during coitus, presenting exclusively as low back pain in our environment. This case report details the history, autopsy finding and the importance of a thorough vascular assessment in the presence of sudden onset of severe low back pain occurring during sexual activity.

Key words: Severe low back pain; coitus; aortic dissection

INTRODUCTION

An aortic dissection usually occurs from a rupture of the intima layer, which allows blood to enter the media and dissect between the intimal and the adventitial layers (Johnson, 2000). Aortic dissection has an estimated incidence of between 5 to 30 cases per million population per year (Khan and Nair, 2002). The most common predisposing factor is chronic systemic hypertension which has been estimated to be present in 62–78% of patients (Khan and Nair, 2002).

Persistent elevated blood pressure with poor drug compliance may lead to serious complications including aortic dissection. We present a case in which the development of aortic dissection occurs during coitus and presenting mainly as acute low back pain. The patient was a known hypertensive which is a risk factor, the relationship between low back pains, aortic dissection and sexual intercourse were discuss. To our knowledge, this is the first reported case of coital aortic dissection presenting de novo as severe low back pain in our environment.

CASE REPORT

A 51 year old man known hypertensive with poor drug compliance was admitted to the emergency department with severe, sudden onset low back pain of four hours duration, which began during coital activity. There was associated diaphoresis. The patient reported that the pain which was very severe by the time he arrived at the emergency department, was restricted to his low back and radiate anteriorly through T10-T12 dermatomal levels. It was aggravated by lying supine and was severe enough to prevent patients from sleeping. There was no retrosternal chest pain, shortness of breath, orthopnea, paroxysmal nocturnal dyspnea, palpitations, transient ischemic attacks, syncope, or pre-syncope and no associated weakness of the limbs. He had a history of hypertension diagnosed 15 years previously, which was being treated with nifedipine 20mg daily plus hydrochlorothiazide 12.5 mg daily. Though, the patient had not been in compliant with his medications. There was no history of intermittent claudication and patient was not a smoker., No Family history of coronary artery disease.

Abbreviations: CT- computerized tomography, MRI- magnetic resonance imaging
On physical examination he was acutely in distress with severe low back pain. He was afebrile, anicteric, and not pale. Cardiovascular system examination revealed a regular pulse rate of 90 beats / minute, no radio-radial delay. There were no carotid bruits. Femoral pulses were nearly absent bilaterally. The arterial wall was moderately thickened without locomotor brachialis. His blood pressure was 120/70mmHg in both arms supine and standing positions. Femoral blood pressure was not done. Jugular venous pressure was not raised. Apex beat was displaced to the 6 left intercostals space and heaving, first and second heart sounds with a loud A2 were heard over the praecordium. There were no murmurs, and no signs of heart failure. Respiratory rate was 24 breaths / min and the chest was clinically clear and his temperature was 36°C. The patient had no neurological deficit. Laboratory findings showed glucose of 6.17mmol/l and albumin 35 g/l, while other findings were within normal limits. There was no abnormal finding on 12 lead electrocardiography which showed normal sinus rhythm and no evidence of ischemia or previous infarction.

Chest and thoraco - abdominal number x-ray, computed tomography and echocardiography were ordered for immediately. After clinical and initial laboratory report, diagnosis of severe low abdominal pain with autonomic dysfunction was made. Medical treatment commenced in the emergency room, after which the patient was admitted to a hospital ward. The back pain subsided but the patient’s blood pressure rose to 200/100mmHg 8 hours later. This could not be controlled despite appropriate treatment comprising of atenolol 100mmhg, nifedipine 30mg 12 hourly though parenteral beta blockers was not available. The patient later developed severe cardiorespiratory distress and died within 24 hours of presentation given no room to carry out exhaustive diagnostic procedure. An incidental finding of type B aortic dissection was found during autopsy. Aortic wall appeared normal, with evidence of hematoma and dissection from the arch of aorta to the level of bifurcation. For reasons unknown at the time, the whole length of descending thoracic and abdominal aorta were completely dissected without significant atherosclerotic plaque seen along the major blood vessels.

**DISCUSSION**

Aortic dissection is an important disease, although rare, it may be life threatening. The diagnosis is missed at the first evaluation in over 38% of patients (Khan and Nair, 2002). In untreated patients, the mortality rate is 25% within 24 hours, 70% by 2 weeks and 90% after 2 weeks (Sommer et al., 1996). Classically, patients with acute aortic dissection usually presents with a history of sudden-onset excruciating, "tearing" anterior chest pain with or without radiation to the back. The pain is usually migratory, extending inferiorly along the length of the aorta to the abdomen or flank areas. Pain is most intense when the symptoms begin which in our patient occur during coital activity. The localisation of the pain is usually related to the region in which the intimal rupture occurs; if the tear is above the aortic valve the pain is felt anteriorly, but if it is distal to the left subclavian vein it is felt in the back (Sommer et al., 1996). Spreading of the pain may be a sign of progressive dissection (Ledbetter et al., 1999). It has been reported that >90% of the patients with acute aortic dissection undergo intense chest pain (Ledbetter et al., 1999; Kodolitsch et al., 2000). In our patient, he presented with low back pain spread to the anterior abdomen along T10-T12 dermatome, which depict a radiculopathy this is in sharp contrast to an earlier reported case that presented with paraparesis and dissociated sensory loss (Ogun et al., 2004).

In this case, the patient presented with a four hours history of severe low back pain with no other clinical features suggestive of either acute or chronic aortic dissection. We believe that this patient with the poor antihypertensive drug compliance, the persistence increase in arterial pressure caused enhanced aortic wall tension, and a further sudden increase of pressure on the aortic wall triggered by exertional coital activity led to the intimal tear and consequent aortic dissection arising from the descending aorta to the aortic bifurcation in the abdomen which was discovered incidentally at autopsy. Complications of aortic dissection may include sudden cardiovascular collapse from cardiac tamponade secondary to pericardial effusion, or massive acute myocardial infarction from dissection of coronary arteries, usually the right coronary artery (Baydin et al., 2005). Aortic insufficiency may occur due to retrograde dissection into the aortic sinuses or annulus. A dissection may also be complicated by branch artery obstruction resulting in neurovascular deficits, such as stroke, ischemic neuropathy, paraplegia and paresis, limb ischemia, bowel ischemia, and renal failure (Ogun et al., 2004).

In acute type B dissection as in our case, when managed medically while preparing for surgical intervention has been noted to have good prognosis (Harrison’s Principle of Internal Medicine).

Surgery for type B chronic dissection is indicated for late aneurysm formation and chronic aortic insufficiency (Felix and Morin, 1996). Due to the unusual clinical presentation in this case, Surgical intervention though not available will not be feasible, although medical management with close follow-up using serial imaging studies might not have been unreasonable. Thus, this case of aortic dissection not only demonstrates the possibility of a typical clinical presentation but also the importance of an urgent exhaustive radiological investigation such as CT/ MRI of the abdomen as appropriate in cases of exertion or post exertional non traumatic acute low back pain.
CONCLUSION

Aortic dissection should be considered a possible diagnosis in patients who present to the emergency department with complaints of non traumatic severe low back pain after exertive activities such as coitus. Non-invasive diagnostic methods such as X-rays, CT, echocardiography and magnetic resonance imaging should be performed promptly to rule out aortic dissection, which is a very severe life threatening condition. Aortic dissection may be added to the complications seen after acute onset of post coital severe low back pain.

ACKNOWLEDGEMENT

The author would like to thank the patient’s relative for their cooperation and consent for permitting us to use his medical data for this case report.

REFERENCES


