

# Acute Aortic Dissection Presenting with Hemiplegia

**Srinivas Soma, Sudheer Venkata Bolinera, Sanivarapu Srinivasa Reddy,  
Vijaya Pamidimukkala, Michael Naronha, Deepti Gali,  
Vikas Somnath Khamkar, Muralibaburao Rachaputi, Anurag Polavarapu,  
Naren Polavarapu, Sirichandana Gangasani, Sravanthi Byrapaneni,  
Meghana Chilukuri, Raghava Sarma Polavarapu**

Lalitha Super Specialities Hospital, Guntur, Andhra Pradesh, India

Corresponding Author: Raghava Sarma Polavarapu

## ABSTRACT

The tear in the intimal layer of aorta is termed as aortic dissection. Aortic dissection is a severe, life threatening condition usually requiring emergency medical treatment or intervention. There are no specific symptoms and presentation can differ according to severity and extent of dissection. The incidence of aortic dissection is rare and presence of neurological symptoms is even rarer. Here, we present a case of a 62 year old female who presented with severe chest pain and weakness in left side of the body.

**Key words:** aortic dissection; CT aortogram; hemiplegia

## INTRODUCTION

Acute aortic dissection (AD) is a rare medical emergency that carries high mortality and morbidity. Separation of layers of aortic wall causes AD. The majority of patients die even before reaching the emergency department. There are no specific presenting symptoms, although, may include an abrupt onset of severe 'tearing' chest pain. Clinical presentation of AD can vary as per the extent of the dissection. Early and precise diagnosis is required for proper management. If undiagnosed or left untreated may lead to multiorgan failure, myocardial infarction, renal failure, amputation of extremities, tamponade, bowel ischemia, paraplegia, and death. Major risk factors include uncontrolled hypertension and old age. Other risk factors

for AD are atherosclerotic disease, aortic aneurysm and some connective tissues disorders [1]. The classical presentation of AD is of an older patient with uncontrolled hypertension who presents with sudden onset chest pain that radiates to back. Here, we present a case of pan AD in an elderly female who presented with hemiplegia.

## CASE REPORT

A 62 years old female presented with sudden onset chest pain and weakness of left side of the body. She had known history of hypertension. Her physical examination showed pulse 60/min but unequal on both sides. Her blood pressure on arrival was 100/60 mmHg. Her muscle strength grade in left upper limb was 2/3, left lower limb 3/5, and Glasgow Coma Scale (GCS) was 13/15. Considering her GCS score, magnetic resonance imaging of brain was advised. Her brain magnetic resonance imaging revealed infarction in right capsuloganglionic area. Her echocardiogram showed left ventricular hypertrophy, 58% left ventricular ejection fraction and moderate aortic regurgitation. Her chest pain was persistent even after treatment. Her blood pressure in different limbs were; 100/60mmHg in upper left limb, 140/90mmHg in upper right limb, 180/100mmHg in lower right limb, 160/100 mmHg in lower left limb. Considering her history of uncontrolled hypertension and chest pain along with diagnosis of great differences in her limb blood pressure, she

was advised for computed tomography aortogram. Her CT aortogram showed extent of aortic dissection involving

ascending arch, descending thoracic and abdominal aorta (Figure 1).

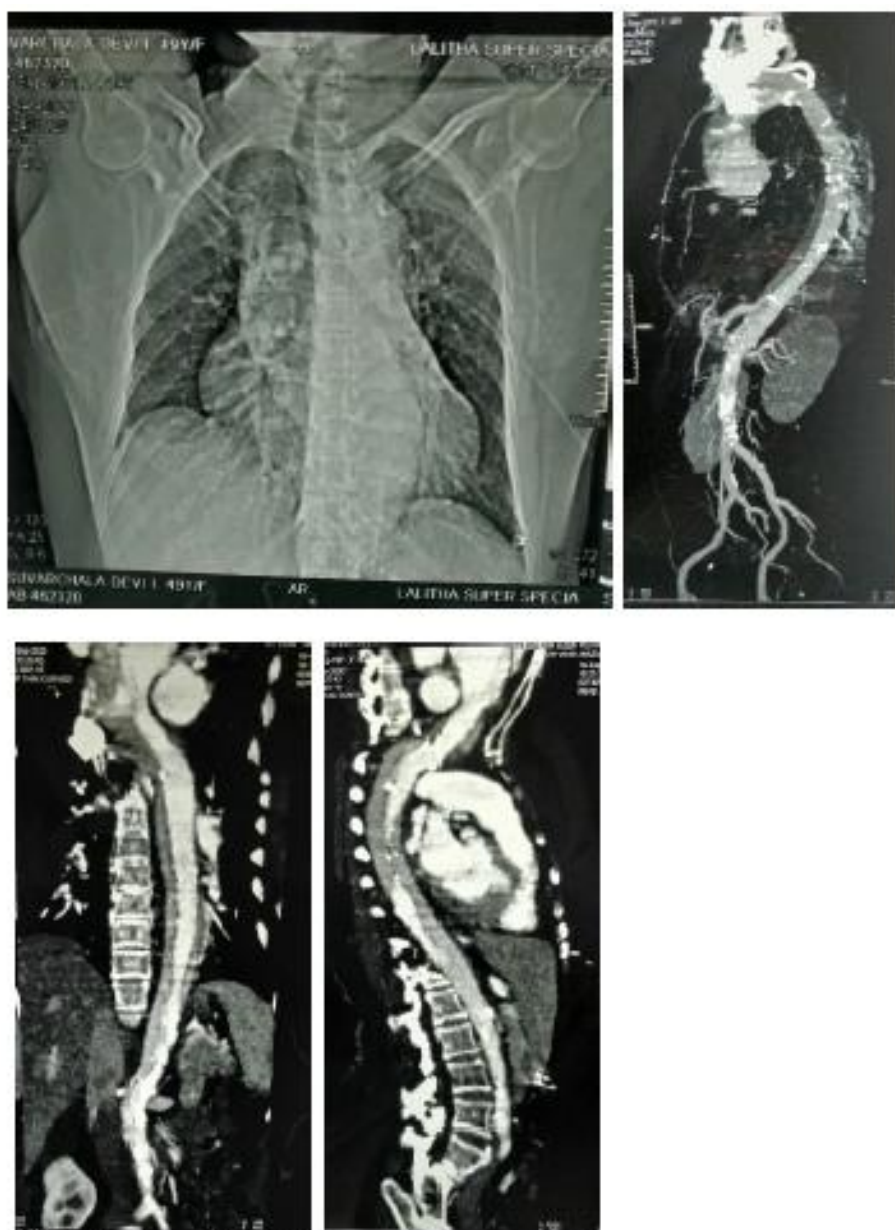


Figure 1: Computed tomography aortogram showing extent of aortic dissection involving ascending, arch, descending thoracic and abdominal aorta

## DISCUSSION

Variable clinical manifestation makes it difficult to diagnose the AD. The electrocardiography changes seen in patient with AD may be suggestive of acute coronary syndrome and can be misleading specifically if ST elevation is observed. The incidence rate of AD is very low (around 5-30 cases/million/year) compared to acute myocardial infarction (approximately 4,400

cases/million/year) [2]. However, the mortality rate in patients with AD is higher. If the AD left untreated for >48 hours from the onset of symptoms, mortality rate approaches 50%. Age is one of the risk factors for AD in about 75% case aged 40-70 years [3]. In the present case also, the patient was 62 years old. Moreover, in our case, the patient was female. The occurrence of AD is three times more in elderly male

than in female and also tends to have worse outcome than males.

The highlight in the present case is neurological presentation associated with AD. The patient presented with hemiplegia. Neurological symptoms aren't common in AD. During our literature search, we did not find any reported cases where patient had hemiplegia with AD. The primary suspicion of AD is usually done based on patient's history and severe chest pain upon presentation. In the present case, the initial suspicion of AD occurred when unequal pulses were noted on both sides.

If patient has acute ascending AD (Stanford Type A dissections), emergency surgical intervention is required [4]. While in case of descending AD (Stanford Type B dissections) if not progressive or with hemorrhage, medical treatment can be given. In the present case, both ascending and descending (Stanford Type A and B) part of aorta was dissected. For Type A dissection, surgical intervention includes excision of intimal tear and obliteration of false lumen entry. If required, synthetic vascular graft can also be inserted and/or replacement of aortic valve [5]. Medical management should be aimed at lowering the blood pressure and endovascular stenting if complication occurs [6]. Clinicians should be aware of the atypical

presentations of AD as they may delay the diagnosis of this lethal condition.

## CONCLUSION

As some of the patients may present with symptoms that seems cerebrovascular event like stroke, importance lies in recognizing the actual cause and should not begin thrombolytic therapy in such cases.

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