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OLGU SUNUMU / CASE PRESENTATION

Severe Aortic Coarctation Incidentally Diagnosed During Coronary Angiography

Koroner Angiografi İşlemi Esnasında Tesadüfen Saptanan Ciddi Aort Koarktasyonu

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ABSTRACT

Aortic coarctation (AC) represents about 5-8 % of all congenital cardiac diseases and a combination with other bicuspid aortic valve is commonly seen. AC is typically a disease of childhood and early adulthood, reducing life expectancy in patients who have not undergone correction. Death in patients who do not undergo repair is usually due to heart failure, coronary artery disease, aortic rupture/ dissection, infective endocarditis/ endarteritis or cerebral hemorrhage. In this report, a 60-year-old patient administered to our emergency department due to unstable angina pectoris with asymptomatic aneurysm of the ascending aorta, AC and a bicuspid aortic valve is presented.

Keywords: Aortic coarctation; hypertension; unstable angina pectoris.

ÖZET

Konjenital kalp hastalıkları içerisinde % 5-8 oranında sıklığa sahip aort koarktasyonuna biküspit aort kapağı sıklıkla eşlik etmektedir. Aort koarktasyonu tipik olarak çocukluk ve erken erişkin döneminin hastalığıdır ve onarım yapılmazsa yaşam süresi azalır. Onarım yapılmayan hastalarda ölüm; sıklıkla kalp yetersizliği, koroner arter hastalığı, aort rüptürü/ diseksiyonu, enfektif endokardit/ endarterit veya serebral hemorajiye bağlıdır. Bu yazıda, 60 yaşında çıkan aort anevrizması, aort koarktasyonu ve biküspid aort kapağı olan kararsız angina pektoris ile acil servise gelen hasta takdim edilmiştir.

Anahtar Kelimeler: Aort koarktasyonu; hipertansiyon; kararsız angina pektoris.

INTRODUCTION

AC accounts for 5- 10 % of all congenital heart diseases and occurs more frequently in males. It is usually diagnosed during childhood by routine examination of blood pressure and femoral pulse palpation (1). We describe a case of late diagnosed coarctation in an elderly patient.

CASE PRESENTATION

A 60 year-old-man presented with acute onset of typical chest pain suggesting angina pectoris and dyspnea on exertion to the emergency department. Patient scaled the pain as 10/10, the highest score for pain. He had a 35 pack-year history of smoking. The patient had a medical history of dyslipidemia and hypertension. His hypertension was poorly controlled despite a combination of antihypertensive agents including calcium channel blocker, beta-blocker, thiazide diuretic, and angiotensin receptor blocker at a proper dose. He denied any history of alcohol or intravenous drug use. Physical examination showed blood pressure 180/90 mmHg in arms, a heart rate of 90 BPM, a grade 2/6 non-radiating systolic murmur at left 4th intercostal space. The nitroglycerin infusion started in the emergency room relieved his pain. ECG revealed ST depressions in leads II, III, aVF, V4, V5, V6 and an ST elevation of D1, aVL. Cardiac markers were within normal reference range. His echocardiogram showed bicuspid aortic valve, ascending aortic dilation (48 mm) and segmental wall motion abnormalities. The left ventricular ejection fraction was significantly reduced (LVEF: 35- 40 %). Due to the cardiac dysfunction, severe chest pain and his clinical presentation, the patient underwent an emergency cardiac catheterization to evaluate his coronary artery disease. Vascular examination was normal and both

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femoral arteries were palpable prior to the angiography procedure. Coronary angiography was planned through the right femoral artery as usual.

However, the guidewire did not move forward due to some kind of obstruction. After injecting a small amount of contrast medium through the catheter, we found that the aorta was obstructed totally. Therefore, coronary angiography was performed through the right brachial artery. Aortography showed dilated aortic root, collateral circulation and a significant ring-like stenosis in the thoracic descending aorta (Figure I, II). The gradient through this stenosis was measured 70 mmHg. The coronary angiography was negative for significant focal coronary artery obstruction. The patient was then referred to cardiovascular surgery for aortic correction and valve replacement. Total hospital stay after surgery was only ten days. After the 4-month follow-up visit, the patient is in good clinical condition.

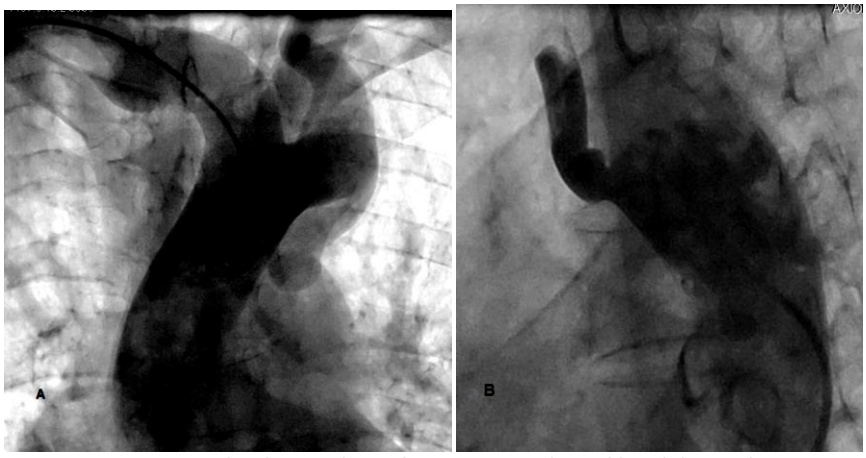

Figure I: A- aortagraphy showing hypoplastic aortic arch, B- dilated descending aorta.

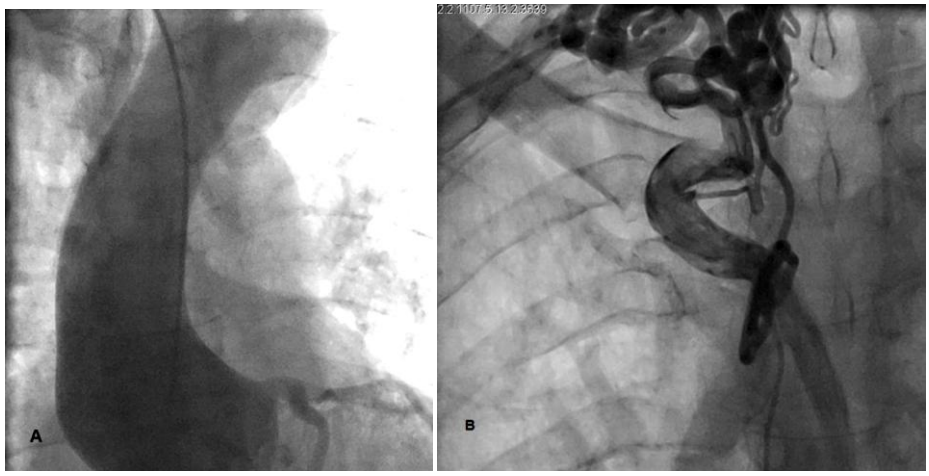

Figure II: A- aortagraphy showing dilation of the ascending aorta and aortic root, B- hypoplasis of the arcus aorta with collaterales.

DISCUSSION

AC is a relatively common congenital defect with apparent clinical manifestations during childhood. This condition is associated with a bicuspid aortic valve in 30- 40 % of the cases (2). Other abnormalities may include a ventricular septal defect, patent ductus arteriosus, aortic stenosis or mitral stenosis (3). A significant coarctation either requires a gradient of >20 mmHg at angiography with or without proximal systemic hypertension, or the presence of proximal hypertension in addition to angiographic or echocardiographic proof of a coarctation (4). AC manifests as childhood hypertension, lower extremity fatigue or

weakness, diminished lower extremity pulses and/or congestive heart failure. Undiagnosed adults most commonly present with severe hypertension which may cause symptoms such as heart failure, headaches, epistaxis or aortic dissection (5). There are few reports of patients first diagnosed with uncorrected AC at very late age (6), unstable angina pectoris not among the common presenting symptoms of a coarctation. There have been very few reports of a AC presenting as acute coronary syndrome. Takahashi et al. described a 29-year-old patient who experienced coronary spasm leading to a myocardial infarction after the repair of her coarctation (7). Covens et al. described a 72-year-old patient who presented with a myocardial infarction and had an incidental finding of a coarctation of the aorta with a 55mmHg gradient. This particular patient was found to have 2-vessel disease which was the primary cause of the MI (8).

In this case report, we present aortic coarctation with unstable angina pectoris in a 60-year-old male. It is rare for this clinical entity to go undiagnosed until the age of 60 since severe cardiovascular complications would be expected to develop by this time. The acute coronary syndrome protocol did relieve our patient's initial symptoms; however, the severity of his persistent chest pain prompted us to perform a heart catheterization which led to the incidental finding of his significant aortic coarctation. Even though it is certain that our patient's presentation was not due to coronary artery disease, the etiology remains unclear.

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