



Double Right Coronary Artery from Single Ostia

CASE REPORT

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ABSTRACT

Coronary anomalies are rare and usually found incidentally during coronary angiography. Double right coronary artery (RCA) is a rare anomaly that originates from either a single or separate ostia. We report the case of a 68-year-old male with dyspnea on exertion and shortness of breath during the previous month. Electrocardiogram and echocardiography were normal with only moderate pulmonary artery hypertension. During elective coronary angiography, we observed two separate RCAs from a single ostium; both had no significant atherosclerotic lesion. Coronary anomalies are rare, but due to their clinical significance, it is important to diagnose these anomalies for better management.

Keywords: Coronary artery anomaly, double right coronary anomaly, coronary angiography

INTRODUCTION

The use of coronary angiography (CAG) has resulted in increased diagnosis of coronary artery anomalies and a better understanding of these anomalies (1). The anomalies of origin and distribution are the common forms of coronary artery anomalies (1). Double right coronary artery (RCA) is one of the rarest coronary anomalies with a benign nature. Double RCAs are usually from two separate ostia or a single ostium (2-6).

Here, we present the case of a patient with double RCA from a single ostium.

CASE REPORT

Our patient was a 68-year-old male who was a heavy smoker (40 packs/year) with a history of chronic obstructive pulmonary disease and cor pulmonale. The patient visited our hospital with complaints of dyspnea on exertion and shortness of breath during the last month. On physical examination, jugular vein pressure (JVP) was found to be elevated, whereas other findings were normal. Chest X-ray and laboratory findings were nonspecific. Electrocardiogram showed a normal sinus rate and tachycardia with P pulmonale. Transthoracic echocardiography findings were normal with normal left ventricle ejection fraction (LVEF) and moderate pulmonary artery hypertension (systolic pulmonary artery pressure=54 mmHg). Due to chest pain on exertion, the patient underwent elective CAG, which demonstrated two separate RCAs from a single ostium (Figure 1. a, b). Both RCAs had no significant atherosclerotic lesion. The origin and course of the left coronary arteries were normal.

Written informed consent was obtained from the patient in this study.

DISCUSSION

Most coronary anomalies are detected as incidental findings during CAG. Although coronary anomalies are uncommon, they could have atherosclerosis and cause arrhythmia and acute coronary syndrome (7, 8). Double RCA is a rare coronary anomaly; in this anomaly, two RCAs are coursing toward the right atrioventricular groove, originating marginal branches and terminating by giving off the posterior descending artery in the posterior interventricular groove (9). Double RCA originates from a single ostium or separate ostia with two arteries arising separately (4, 9).

We reported a case of double RCA from a single ostium in a 68-year-old male as an incidental finding in CAG. In previous studies, it has been reported to be predominant in male patients (9-11). In our case, the CAG findings besides the coronary anomaly were normal; thus, it is possible that the patient's dyspnea was due to the underlying chronic obstructive pulmonary disease and cor pulmonale. Therefore, the double RCA would be a benign incidental finding.

Cite this article

as: Doustkami H, Habibzadeh A. Double Right Coronary Artery from Single Ostia. Erciyes Med J 2018; 40(3): 162-3.

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Submitted
20.07.2018

Accepted
08.08.2018

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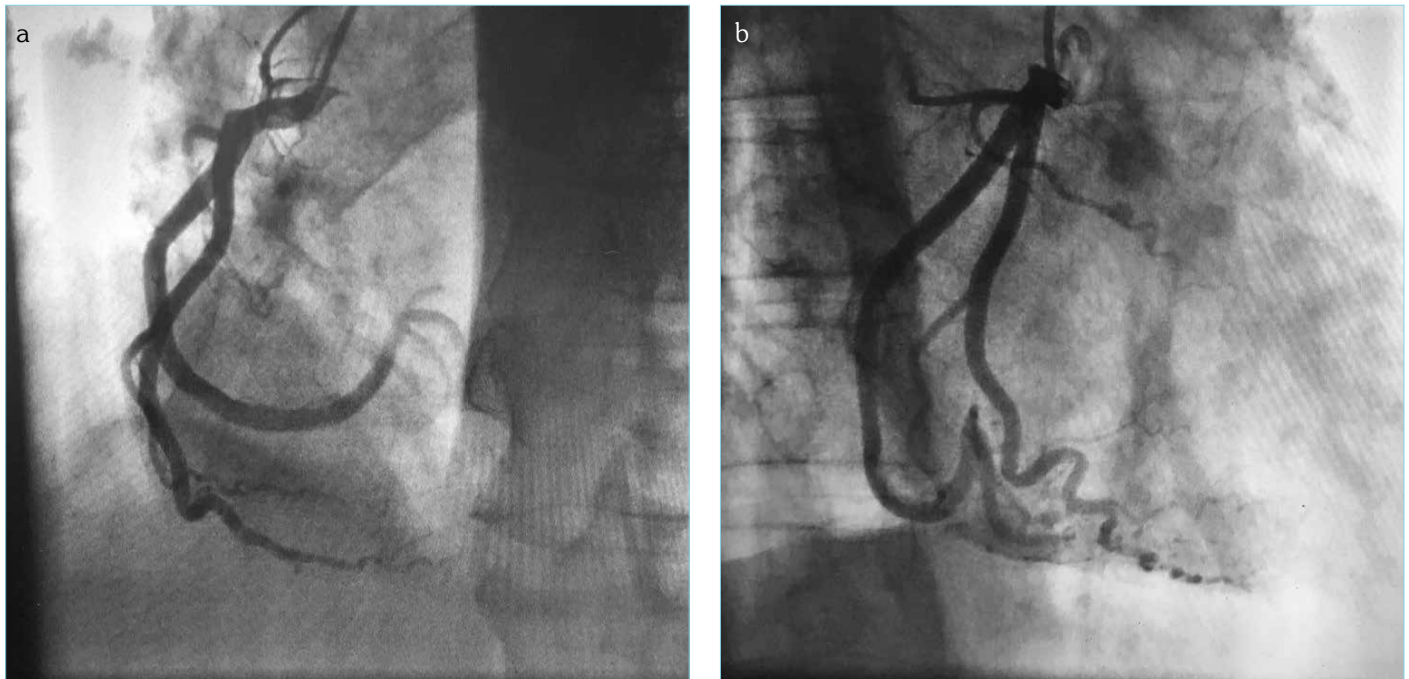


Figure 1. a, b. Double right coronary arteries from a single ostium

Patients with double RCA have a high prevalence of atherosclerotic coronary artery disease (CAD). These patients have an increased risk of unsuspected complications of atherosclerotic CAD (10, 11). These patients can also show a positive stress test while having no significant stenosis. Three different modalities can be used to diagnosis double RCA, including conventional angiography as the gold standard, multi-detector computed tomography, and coronary magnetic resonance angiography (CMRA); using the first two modalities, patients are exposed to ionizing radiation, whereas CMRA is a safe and non-invasive method (11).

Although in the literature, the most reported cases of RCA have been from Turkey, there is no defined correlation between ethnicity and its prevalence (11).

CONCLUSION

Coronary anomalies are rare, but due to their clinical significance, it is important to diagnose these anomalies for better management.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Conceived and designed the experiments or case: HD. Performed the experiments or case: HD. Analyzed the data: AH. Wrote the paper: AH. All authors have read and approved the final manuscript.

Conflict of Interest: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

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