

Successful percutaneous coronary intervention for severe stenosis of a double right coronary artery

Skuteczna angioplastyka krytycznego zwężenia podwójnej prawej tętnicy wieńcowej

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Abstract

Anomalies of the coronary arteries are uncommon and often asymptomatic. Double right coronary artery (RCA) is a very rare coronary anomaly. So far, the number of reported cases of double RCA is low. We describe a case of a 50-year-old female patient hospitalised with the diagnosis of unstable angina pectoris. RCA injection showed filling of two separately originating RCA, coursing towards the right atrioventricular groove. Coronary angioplasty was successful.

Key words: double right coronary artery, coronary angiography, coronary anomaly

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Introduction

Coronary artery anomalies (CAA) are a rare angiographic finding. The incidence of CAA is about 1–2% in angiographic studies of the adult population [1]. Sometimes they are associated with acute coronary events. Patients are mostly asymptomatic but acute coronary syndrome (ACS) is a possible, yet uncommon, clinical presentation. In some cases, ACS is linked to CAA. We report a case of ACS due to a double right coronary artery stenotic lesion that was successfully managed with percutaneous coronary intervention.

Case report

The patient was a 50-year-old woman who was admitted to our coronary care unit with the diagnosis of unstable angina pectoris. She had no risk factor for coronary artery disease. Examination of the cardiovascular system was unremarkable. She was a chronic smoker. The blood pressure and pulse rate were 135/85 mmHg and 82 beats per minute. Electrocardiography showed 0.5-1 mm ST-segment depression in leads DII, DIII and aVF. Cardiac enzymes and troponin I were normal. She underwent coronary angiography, because her symptoms persisted

despite medical treatment. Injections in the left coronary sinus demonstrated no anomalous left coronary artery and circumflex coronary artery, no regional wall motion abnormality, and normal systolic function. Injection of radiopaque material into the right sinus revealed two separate RCAs originating from a single ostium in the right sinus of Valsalva. The anterior RCA was normal but the posterior RCA had a 99% occlusion in its distal portion (Figure 1). Percutaneous coronary stent implantation was performed to the stenotic distal portion of RCA and the patient was discharged without any complications (Figure 2).

Discussion

Most anomalies are discovered as incidental findings during coronary angiography. Double RCA is a very rare coronary anomaly. So far, the number of reported cases of double RCA is low. Some authors claim that it is very difficult to interpret it as either a double RCA arising from a single ostium or a high take-off of a large right ventricular branch by looking at angiographic views [2]. It is predominantly seen in males and might originate from either single or separate ostia.

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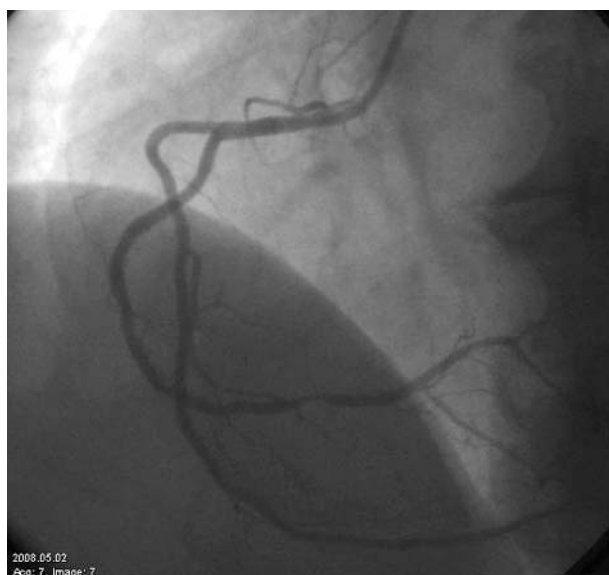


Figure 1. Periprocedural coronary angiograms. Left anterior oblique view of the right coronary system showing two separate RCAs originating from a single ostium. The anterior RCA was normal but the posterior RCA had 99% stenosis in its distal portion

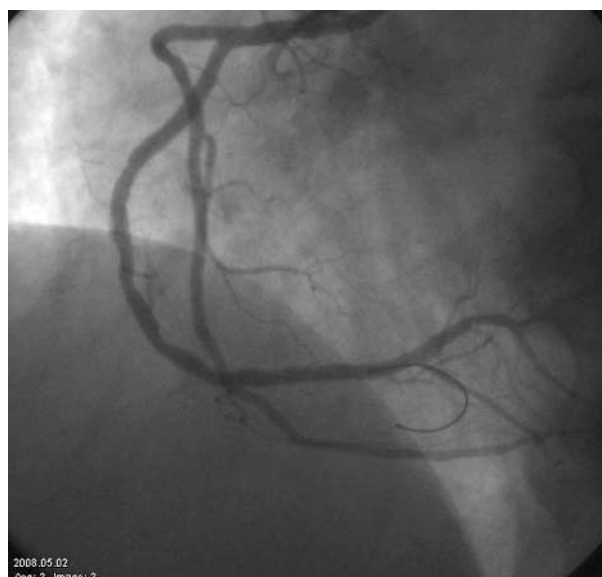


Figure 2. Postprocedural coronary angiograms. Left anterior oblique view of the right coronary system. Percutaneous coronary stent implantation was performed to the stenotic distal portion of the right coronary artery

Double RCA has generally been considered as a benign entity but it might be atherosclerotic and can cause acute coronary syndromes including myocardial infarction and be associated with other anomalies [3]. In our case, 99% stenosis was observed in one of the RCAs which was located posteriorly. We speculated that, besides coronary abnormality, these lesions could be the cause of acute coronary syndrome.

Conclusions

Although controversy exists about the definition of double RCA and it is generally considered as a benign entity, it might be atherosclerotic and can cause acute coronary syndromes including myocardial infarction and

be associated with other anomalies. Coronary anomalies should be recognised to avoid problems during coronary intervention and cardiac surgery.

References

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