

A Case of Severe Coronary Sinus and Right Coronary Artery Anomaly with Relatively Mild Symptoms

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ARTICLE INFO

Received Date: September 04, 2022

Accepted Date: September 09, 2022

Published Date: September 12, 2022

KEYWORDS

Coronary sinus anomaly;
Right coronary artery enlargement;
Angina; Right to left shunting;
Cardiac computed tomography

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Citation for this article: Sofie Willemoes Carstensen and Jess Lambrechtsen. A Case of Severe Coronary Sinus and Right Coronary Artery Anomaly with Relatively Mild Symptoms. Journal Of Case Reports: Clinical & Medical. 2022; 5(2):165

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INTRODUCTION

A 72-year-old male with no previous cardiac history, other than hypertension, presented with intermittent angina not associated with activity. He also suffered from fatigue and dyspnea. The electrocardiogram showed RBBB, and the echocardiogram showed slight hypertrophy of the right ventricle and interventricular septum of 14 mm, a normal ejection fraction, but with a degree of diastolic dysfunction. The patient was further investigated with ECG gated multidetector computed tomography (CCTA) showing a severe anomaly of the coronary system, with a fistula from the Right Coronary Artery (RCA) to the Coronary Sinus (CS), and arterial communication with the entire left coronary venous system (Figure 1a,b,c). The RCA was heavily ectatic (11 mm) and tortuous, and the CS was equally severely enlarged (14,3 mm).

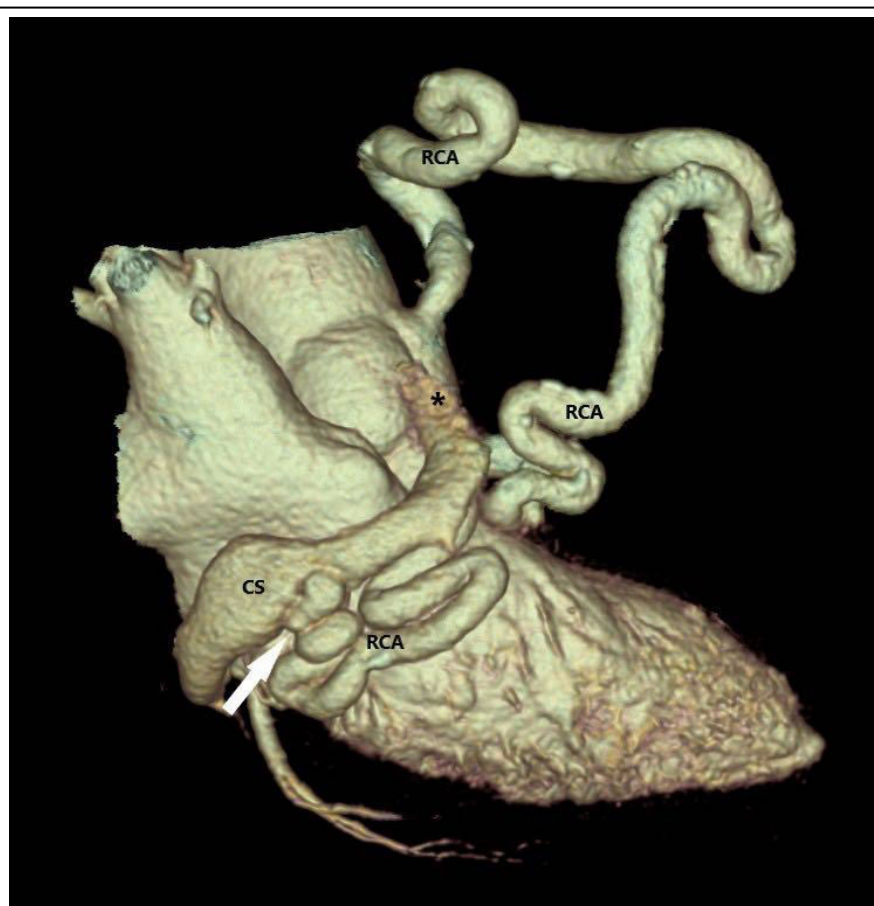


Figure 1a: Severely tortuous and ectatic Right Coronary Artery (RCA) anomaly with fistula from RCA to the Coronary Sinus (CS). Beginning of Right Atrium (*) (not displayed). Constriction of RCA proximal to the fistula (white arrow).

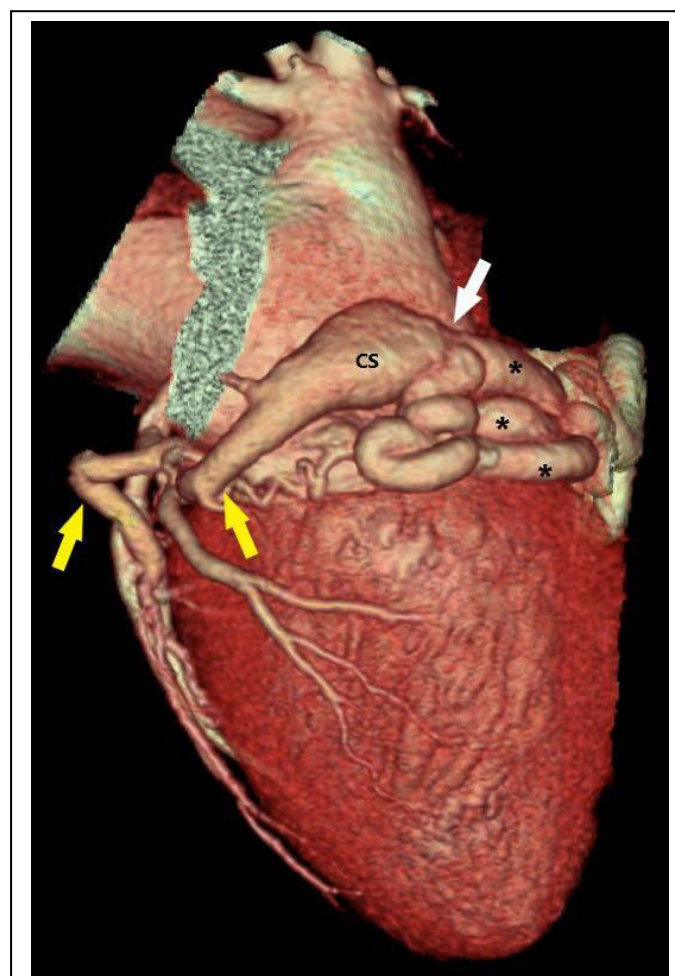


Figure 1b: Posterolateral view.

RCA (*), CS and left coronary venous system (yellow arrows), constriction (white arrow).



Figure 1c: RCA (*). Left circumflex artery (white arrow) left coronary venous system (yellow arrow).

CORONARY SINUS ANOMALIES

CS anomalies are rare and usually congenital. They include absence, hypoplasia and, as in this case, enlargement of the CS. In reported cases of fistula formation between RCA and CS, it is commonly seen, that both are enlarged, although not with the magnitude seen in this case¹. The fistula most likely contributed to the symptoms reported by the patient due to slight left to right shunting. Subsequent myocardial perfusion scintigraphy showed no sign of ischemia. A constriction of the RCA proximal to the fistula, which was also visualized by CT (Fig. 1a, white arrow), probably prevented more extensive shunting and severe symptoms. Interventional treatment was considered, but due to the relative mild and non-progressive character of the symptoms, it was found to be with a high surgical risk and not necessarily with any benefit for the patient. The patient was commenced with aspirin and beta-blocker and followed closely with echocardiograms. Beta-blocker treatment relieved the angina, and the other symptoms were stationary after two follow-up. Echocardiograms were also unchanged at follow-up.

CONFLICT OF INTEREST

None

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