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Images in cardiovascular disease. The right type of single coronary artery

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A 65-year-old woman without past medical history was referred to our hospital for evaluation of dyspnea on exertion. Her chest X-ray showed normal heart size, and her electrocardiogram showed normal sinus rhythm. Echocardiogram showed a mildly reduced ejection fraction (48%) with global hypokinesia of the left ventricle and mildly increased left atrial volume. Coronary computed tomography (CT) angiography showed a single coronary artery originating from the right sinus of Valsalva, without the left coronary artery (Fig. 1).

The single coronary artery is a rare congenital anomaly. A previous observational study shows the prevalence is approximately 0.024–0.066% [1–3]. Compare to the left type single coronary artery, the right type single coronary artery is extremely rare. To our best knowledge, this is the first case report in Korea.

In this patient's CT results, no coronary atherosclerosis was found. However, because the single coronary artery can increase the possibility of angina pectoris, myocardial infarction, congestive heart failure, or sudden death, we are now closely monitoring this patient to prevent such events.

Authors' contributions

Conceptualization: Shin MS. Investigation: Yang TI, Kim M, Hwang JH, Shin MS. Supervision: Shin MS. Writing - original draft: Yang TI. Writing - review & editing: Yang TI, Kim M, Hwang JH, Shin MS.

Declarations

Ethics approval and consent to participate

Written informed consent was obtained from the patient.

Competing interests

The authors have no financial conflicts of interest.

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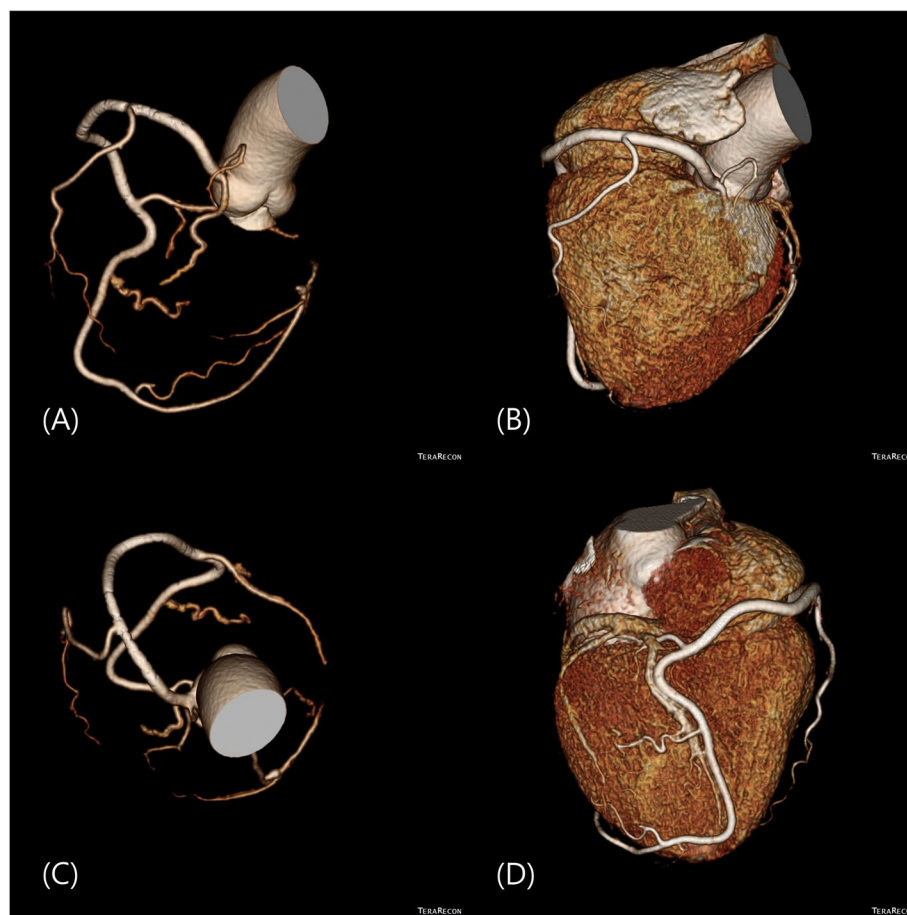


Fig. 1 Coronary computed tomography angiography of the patient. **A** Volume-rendered coronary tree. **B** Volume-rendered reconstruction. **C** Cranial view of coronary tree. **D** Posterior view of the coronary artery. The posterior descending artery courses through the heart's apex and goes straight as the left anterior descending artery