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## CARDIOVASCULAR FLASHLIGHT

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# Anomalous origin of right coronary artery from the left coronary sinus: sudden death and successful surgical reimplantation

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A 39-year-old man with no clinical relevant data, elite long-distance runner, was admitted to our institution with the diagnosis of ventricular fibrillation while participating in a half-marathon competition. He was resuscitated at the site of the event with electrical cardioversion, and at his admission, he was clinically stable.

Electrocardiogram demonstrated regular sinus rhythm. Echocardiography showed normal biventricular function and no presence of hypertrophic cardiomyopathy. Cardio-magnetic resonance demonstrated no findings of arrhythmogenic right ventricular dysplasia and no other pathological data. Electrocardiogram-gated 64-slice computed tomographic angiography (CTA) showed an anomalous origin of the right coronary artery (RCA) arising from the left coronary sinus with an intramural course (Panel A, arrow) between the aorta and pulmonary artery (Panel B).

Surgical translocation of the RCA was performed. With the use of extracorporeal circulation and cardioplegic arrest, the RCA was dissected distal to the intramural portion, all its way along the aortic root and initial part of the atrioventricular groove (Panel C). Then, it was transected and the orifice of the intramural portion was closed. The RCA was anastomosed to the ascending aorta with a running 7/0 polypropylene suture. Post-operative course was uneventful. A CTA demonstrated successful reimplantation of the RCA in the right sinus (Panels D and E). On the 9th postoperative day, the patient was discharged home.

Three months later, the patient was in NYHA class I. Ergometry examination results were satisfactory, with a peak of 15.2 METs. A single-photon emission tomography showed no myocardial ischaemia, and good left ventricular ejection fraction (62%).

