Left Circumflex to Coronary Sinus Fistula
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Clinical History
A 68-year-old man with a history of hypertension, hyperlipidemia, diabetes and prior tobacco use presented with recurrent complaints of intermittent dizziness, lightheadedness, and syncope. A myocardial perfusion study and transthoracic cardiac ultrasound were unremarkable, and his left ventricular ejection fraction (LVEF) was noted to be 65%. A subsequent Holter revealed symptomatic non-sustained ventricular tachycardia. Cardiac catheterization demonstrated multivessel coronary artery disease. His left circumflex artery was aneurysmal and ectatic, and a fistulous tract extending to the coronary sinus was identified. Coronary CTA was requested prior to bypass surgery (CABG) for better evaluation of the coronary AV-fistula (CAF), and its relationship with surrounding structures.

Findings
Cardiac CTA confirmed the presence of a CAF between a markedly dilated and tortuous left circumflex coronary artery and the coronary sinus. Furthermore, no additional fistulas, thrombus formation, or other associated anatomical abnormalities were noted.

Discussion
CAF is a rare congenital anomaly accounting for less than 0.5% of all cardiac anomalies. A CAF is defined as a direct connection between a coronary artery with right heart chambers including the right atrium, right ventricle, coronary sinus, superior vena cava, or pulmonary arteries. Although a single communication is most common, there are reports of multiple fistulas. Older patients usually present with symptoms including congestive heart failure, endocarditis, myocardial infarction, pulmonary hypertension, and sudden cardiac death.

The development of symptoms attributable to a CAF, significant aneurysm formation, multiple fistulous connections, and high flow fistulas are among the indications for intervention. Management of CAFs includes transcatheter embolization or surgical ligation. Long-term follow up is recommended due to possible post-operative recanalization, persistent dilatation of the involved artery, thrombus formation, and myocardial infarction.

REFERENCES