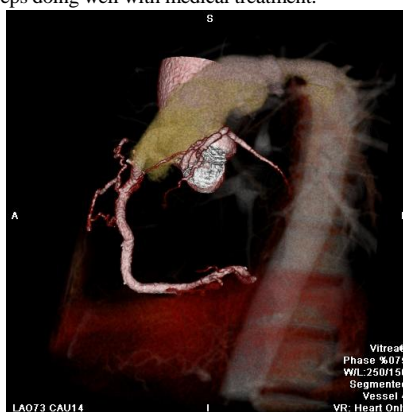


Single coronary artery arising from the right sinus of Valsalva presenting with STEMI

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The prevalence of coronary artery anomalies is reported to be approximately 0.3% to 2% of the general population. Most of these anomalies are asymptomatic during life, and the prognosis is good. However, some of these anomalies are associated with syncope, ischemic heart disease, and sudden death. Single coronary artery is extremely rare congenital coronary anomaly. We report here on a case of coronary anomalies presenting with AMI. A 56-year-old male patient visited the emergency department for severe chest pain. The initial electrocardiogram showed 2mm of ST segment elevation in leads II and III a VF. The CK-MB level and troponin I level was elevated. This patient was directly referred for coronary angiography (CAG) under the diagnosis of STEMI. The initial angiography showed single coronary artery arising from the right sinus of Valsalva. The CAG showed 75% coronary stenosis with TIMI 3 flow in the distal segment of the coronary artery. To find out more about the coronary anatomy, we performed the coronary CT angiogram. Single coronary artery arising from the right sinus of Valsalva and distal Right coronary artery had no thrombi and had 30% segmental stenosis. We maintained dual antiplatelet agent with aspirin and clopidogrel. Three days after, follow up CAG was performed. The previous thrombosis was lost and residual stenosis was observed in a few percent, so we decided to maintain the medication without intervention. He was discharged with single antiplatelet agent with aspirin. So far, He keeps doing well with medical treatment.



Simultaneous multi-vessel coronary thrombosis in patients with STEMI

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Case Presentation: A 64-year-old male presented to our emergency department due to chest pain. Blood pressure was 60/40 mmHg. The ECG showed complete AV block with ST elevation in leads II, III, aVF and V2-V3. Emergent CAG revealed an obstructing thrombus in RCA and LAD coronary artery. Temporary pacing via right femoral vein was immediately started. First, we treated the lesion in the RCA with balloon that was followed with the deployment of a biolimus-eluting stent(BES) successfully. Thereafter, we aspirated the thrombus in the LAD coronary artery. After that, we could find plaque rupture in LAD coronary artery by IVUS. Balloon angioplasty, and stenting with a BES was obtained. The patient's laboratory tests including antithrombin III, protein C, S did not indicate any coagulation disorders. Transthoracic echocardiography revealed akinesia of the inferior wall, hypokinesia of the antero-septal wall. Estimated LV ejection fraction was 44%, and there were no intra-cardiac shunt nor intra-cardiac thrombus. He was discharged seven days later in stable condition. **Discussion:** STEMI is typically caused by disruption of atheromatous plaques, resulting in thrombus formation leading to occlusion of a single coronary artery. Simultaneous multi-vessel coronary thrombosis(SMVCT) is an uncommon angiographic finding and can lead to a fatal outcome. It can occur secondarily due to causes like coronary artery spasm, increased tendency to thrombosis but the underlying mechanism still remains unclear in most of the cases. Multiple plaque rupture has been postulated as the main theory behind the cases without an identifiable cause. Although the incidence of SMVCT is thought to be low in real-world clinical practice, the percentage of patients with STEMI with thrombus in the non-culprit lesion was 32.8% in an angiographic study. Furthermore, an autopsy demonstrated that thrombosis was evident in more than one coronary artery in up to 50% of the cases of sudden death. Early diagnosis and proper treatment are the most important factors in the management process including the timely and accurate performance of ECG, echocardiography and PCI.