# Coronary Artery Disease in a 22 year old male managed with Off -Pump Coronary Artery Bypass Grafting: A Case Report

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## Abstract

**Background**. Coronary Artery Disease (CAD) is typically a disease of older adults, but premature CAD defined as onset before 45 years in men and 55 years in women accounts for 5-10% of cases and tends to present more aggressively. Occurrence under 30 years is extremely rare, comprising of less than 2% of myocardial infarctions. Beyond conventional risk factors, prothrombic conditions such as Antiphospholipid Syndrome (APS) can precipitate CAD in the young. While Percutaneous Coronary Intervention is the standard for Acute Coronary Syndromes, APS confers a higher risk of stent thrombosis, making Coronary Artery Bypass Graft preferrable in select cases.

**Case Description**. A 22-year-old male presented with recurrent chest pain. He had no known comorbidities and denied smoking, alcohol, or illicit drug use. A 12-lead electrocardiogram showed sinus bradycardia, while transthoracic echocardiography demonstrated abnormal left ventricular dimensions with segmental wall motion abnormalities.

A hypercoagulability workup was performed: the dilute Russell viper venom time (LA:LA2 ratio) was elevated (>1.20), whereas anticardiolipin IgG (<0.3 GPL-U/ml) and anti-β2 glycoprotein I antibody (<3.0 AU/ml; normal <12.0) were negative, consistent with non-criteria antiphospholipid syndrome.

Coronary angiography revealed chronic total occlusion of the proximal left anterior descending (LAD) artery, with collateral flow to the distal vessel. The patient underwent off-pump coronary artery bypass grafting (LIMA–LAD). Intraoperatively, the LAD was noted to be calcified but with a suitable landing zone and good distal run-off. Postoperative recovery was uneventful, and he was discharged in stable condition on aspirin and warfarin, with INR maintained between 2.0 and 3.0.

Follow-up

At three months, the patient was asymptomatic with improved exercise tolerance. Echocardiography showed recovery of left ventricular function (ejection fraction 58%). At three months, he remained symptom-free, engaged in normal physical activity, and had no recurrence of ischemic events. INR remained stable within the therapeutic range, and he demonstrated good adherence to medical therapy

**Conclusion**. Premature CAD in the young is rare and often associated with atypical risk factors, including APS. This case highlights the importance of thorough etiologic evaluation and individualized revascularization strategies and multidisciplinary approach. In APS, CABG may be favored over PCI due to lower risk of thrombosis.