Case Summary. The case is rare. It is belonging to a single coronary artery (SCA) anomaly. The SCA defined as an artery that arises from an arterial trunk of the coronary sinus of Valsalva and nourishes the entire myocardium. The incidence of SCA is a rare congenital occurring in approximately 0.024% of the population according to Lipton’s reports.

TCTAP C-221
No Flow in STEMI Patient During Primary PCI
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Relevant clinical history and physical exam. A 78 years old non-diabetic, hypertensive, ex-smoker gentleman was admitted to our hospital for chest pain of 5 hours duration. Physical examination showed BP of 115/70mmHg, HR of 56/min, RR 18/min. Heart sounds were normal, and no murmurs were detected.

Relevant test results prior to catheterization. ECG showed 3-5 mm ST segment elevation of leads V2-V5 and inverted T waves. In addition, biochemistry showed increased of troponin I (>30ng/ml) and CK-MB (76.6ng/ml).

Relevant catheterization findings. LM: Normal
LAD: Proximal occlusion with evidence of thrombus
LCX and RCA: No significant stenosis

[Interventional Management]
Procedural step. The left coronary artery ostium was engaged with a 6Fr left EBU guiding catheter and a 0.014" RUNTHROUGH guidewire that was negotiated across the LAD occlusion. An intra-coronary tirofiban bolus of 20mcg/Kg was administered, and repeated manual thrombus extraction was attempted using an Export catheter. There was, however, little response in antegrade flow despite 6 attempts with the extraction catheter. A 2.5 x15mm balloon could be pushed to the distal of the LAD smoothly and no antegrade flow appeared except for the diagonal branch. Lower pressure predilation was performed using 2.5x15mm balloon and there was no further improvement in antegrade flow. 100ug verapamil and 10mcg/Kg tirofiban was administered with a microcatheter. TIMI 2 grade antegrade flow could be observed in LAD. A lesion with 90% stenosis persisted in the
proximal of LAD as well as a 95% lesion in the distal of LAD. So a 2.75 x14mm zotarolimus-eluting stent (Endeavor Resolute) was deployed at 12atm in the proximal lesion. However, even after the deployment of the stent, not much better improvement in antegrade flow was achieved. A predilation with 2.0 x15mm balloon was performed for the distal lesion and better results were observed.

Case Summary. The patient was transferred to the CCU and downstream tirofiban infusion continued for another 18 hours. During this period, post-PCI ECG showed no significant changes. The echocardiographic results showed EF 39 with regional wall motion abnormalities (anterior wall). The patient was discharged 7 days after PCI.