

Myocardial Infarction in 32 Years Old With Thrombophilia : a Case Report

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Abstract— 32 years old male patient with past history of unprovoked DVT and pulmonary embolism, and family history of the same condition, presented with typical cardiac chest pain and ECG changes with strongly positive troponin. Diagnosed as a case of ST-Elevation MI. His condition improved after Anti-ischemic medications and PCI.

Index Terms— Myocardial infarction, young adult, DVT, pulmonary embolism, thrombophilia

INTRODUCTION

Myocardial infarction (MI) mainly occur in patients older than 45 years of age with present of risk factors. Fortunately, it is uncommon in patients younger than 45 years of age.(1) We are presenting this case of Myocardial infarction as a rarely reported case in Jazan region-KSA to increase the awareness about early diagnosis and prevention in addition to proper management of such cases.

CASE REPORT

32 years old heavy smoker and Qat chewer male patient, a known case of unprovoked DVT and Pulmonary Embolism (PE). He was doing well till 4 years prior to presentation when he started to has right painful leg swelling, chest pain, shortness of breath and hemoptysis with elevated D-Dimer, ESR, and fibrinogen. CT-Scan with contrast confirm the segmental Pulmonary Embolism, and right lower limb Doppler Ultrasound confirm the acute DVT. Patient then treated and discharged on daily Warfarin and INR checked every 2-3 months. The patient after that was on usual status of health for 4 years till 4 days prior to admission when he started to has central crushing chest pain radiated to left shoulder, increased by activity and not relieved by rest, associated with nausea and profuse sweating, the pain was not related to deep breathing. No history of shortness of breath, cough or lower limb swelling. Systemic review was not significant. His father is hypertensive, diabetic, and developed DVT and PE at age of 53, and underwent CABG. His brother also died 5 years ago due to MI at age of 28. He also has positive family history of recurrent DVT and PE in his second-degree relatives. On examination, the patient was conscious, alert and oriented. He was in pain, his chest was clear, cardiovascular examination was normal, no lower limb swelling or signs of inflammation, and other systems were normal. ECG done and showed ST-Elevation in anterior leads (V1-V4), troponin was positive twice and Echo showed anterior wall hypokinesia. Anti-ischemic medication started and patient referred for urgent coronary angiography. Angiography was done and showed a large clot in the proximal LAD artery [fig 1], after that stent was inserted [fig 2] and the patient started to improve. During this period, thrombophilia workup made and came positive, and the diagnosis of thrombophilia made.

DISCUSSION

Myocardial infarction occur usually due to imbalance between oxygen supply and demand. MI is defined pathologically as irreversible death of myocardial cells due to ischemia, and characterized by symptoms of typical cardiac chest pain which supported by ECG changes, Echo findings and laboratory biomarkers.(2) Although MI occur mainly in patients older than 45 years of age, young males and females can suffer from it.(1) Fortunately, the incidence of MI in young adults is low, and most of studies show only about 3% of all coronary artery diseases (CAD) occur at younger age group.(3) There are many causes of MI among young patients, which include: (Atheromatous CAD, Non- Atheromatous CAD, Hypercoagulable state and MI related to substance misuse).(1) Numerous studies have demonstrated the good prognosis of CAD in young patients. (4,5,6,7) Patients who undergo urgent coronary angiography typically have less extensive CAD and higher ejection fraction in comparison to older MI patients.(7) Inherited thrombophilia is a genetic disorder that induce Hypercoagulable state, which together with other cardiovascular risk factors may explain the event of arterial thrombosis in young patients.(8) The suspicion of thrombophilia has arisen due to proximal LAD artery thrombosis and to a history of previous DVT and PE, in addition to strong family history of similar condition. Patient treated from MI by anti-ischemic medications and urgent coronary angiography with PCI. Then he discharged home on anticoagulant and antiplatelet therapy along with anti-ischemic medications. And he is on regular follow up in OPD.

CONCLUSION

Myocardial infarction is not a common condition among young adults, but it may occur at younger age group in present of favourable conditions and risk factors. Thrombophilia is a serious condition which need to be investigated early specially in patients who come with thrombosis such as DVT. Early and proper management of such cases will lead to good prognosis and decrease the risks of complications.

FIGURES



Figure 1: Angiography shows proximal LAD artery occluded by a large clot.

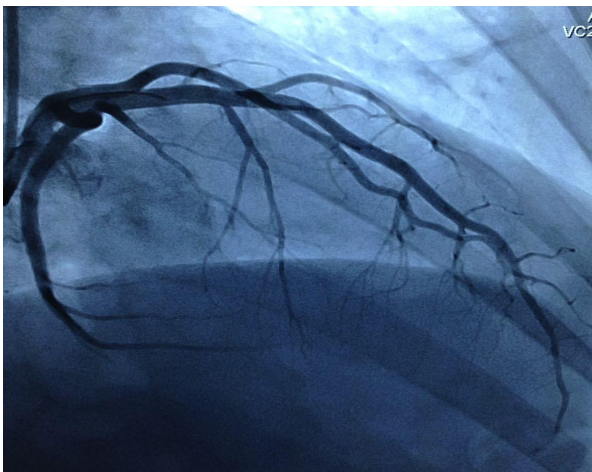


Figure 2: Angiography shows LAD artery after stent insertion.

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