A Case of Coronary Septic Embolism

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ABSTRACT

Published on 29th June 2018

Coronary artery septic embolisation resulting in acute myocardial infarction is a rare complication of infective endocarditis.[1] Diagnosis requires high clinical suspicion, echocardiography, coronary angiography and cultures of peripheral blood and/or embolic material. Optimal therapy is unknown. We report a case of 27 yr old male who had recently been diagnosed with IE later presented with AMI.

Keywords: Infective endocarditis with coronary septic embolism, Myocardial infarction post acute infective endocarditis, Coronary septic embolism

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CASE REPORT

A 27 year old male presented with on and off fever for the past 1 month. He got admitted with recurrence of fever. Fever was high grade with chills and rigor. No respiratory/ GI/ urinary symptoms. On examination, PR: 102/min, BP: 100/60 mmHg, Temp: 101° F, Minimal clubbing+, painful lesion pulp of finger +, Resp: NVBS, CVS: Pan systolic murmur in mitral area, 3rd heart sound, Abdomen: mild splenomegaly, CNS: no FND. Investigations; Hb: 10.3 gm%, TC: 12,220 (N:76% L:18%), Platelet count: 2.37 lakh, ESR: 60, LFT, RFT, URE normal, S.Iron: 43, S.Ferritin: 388, Vit B12:173. P. smear: normochromic normocytic anemia, neutrophilic leucocytosis with toxic neutrophils. USG abdomen: Mild splenomegaly. ECG: sinus tachycardia, no chamber hypertrophy, Xray chest: no cardiomegaly, PBF normal. ECHO: MVP, Grade III MR, Echogenic material (10x2mm) attachedto the tip of AML. S\o vegetation. Blood C/S (all the 3 samples): Enterococus faecalis.

He was diagnosed to be having MVP-MR with Infective endocarditis and was treated with IV antibiotics for 4 weeks according to the culture and sensitivity report. Subsequent blood cultures became sterile and he became afebrile.

He was discharged and advised to come for follow up. On next visit he was symptomatically better. However his repeat ECG showed Deep T inversions in V2-4 and Q waves in II, III, and AVF. Repeat 2D ECHO was done which showed: Healed vegetation, MVP-MR grade III, Adequate LV systolic function, distal septum, anterior wall and Apex Hypokinesia

Final diagnosis

- MVP-MR
- Recent infective endocarditis affecting Mitral valve
- Septic embolus causing Anterior wall Myocardial infarction

DISCUSSION

Systemic embolism is a common complication of IE, most frequently involving the central nervous system, spleen, kidney, liver, and iliac or mesenteric arteries, whereas acute coronary syndrome is infrequently encountered.[2] Systemic embolism occurs in 22–50% of patients with IE, the majority (up to 65%) in the central nervous system, but other major arterial beds may be involved, including the coronary arteries.

Acute myocardial infarction (AMI) complicated by septic coronary embolism from IE is a rare and fatal condition. Most coronary embolisms occur in the LAD coronary artery (13 of 14 cases) because of the downward course of the LAD artery compared with the right coronary artery or left circumflex artery, which originate at 90° to the aortic cusp.[3]

Cite this article as: Hari AK, Harikrishnan BL, Baburaj P. A Case of Coronary Septic Embolism. Kerala Medical Journal. 2018 Jun 29;11(2):54–5.

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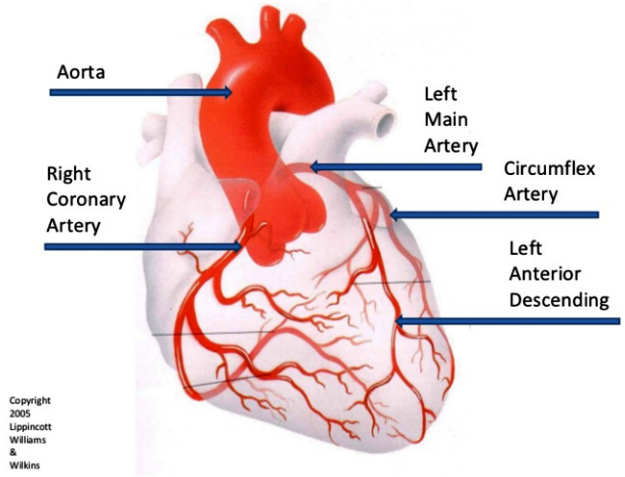

Figure 1. **Blood supply of the Heart**

Septic emboli are more frequent with mitral valve infection (25%) than with aortic valve infection (10%).[4] Coronary angiography can establish the diagnosis of septic emboli in the coronary artery **(figure 1)**. However, contact between the catheter and the valve surface with vegetation may release systemic emboli. Therefore coronary angiography in patients with IE is considered safe if no vegetation is observed on the aortic valve.[5]

Percutaneous intervention is not the definitive therapeutic strategy. The indication mainly depends on the infarct size and the grade of congestive heart failure due to myocardial infarction itself because another embolic complication might be induced by the catheterization. Moreover, Balloon or stent procedures may allow mycotic aneurysm to develop at the site, resulting in complications including coronary rupture or sudden death.[6]

CONCLUSION

Therefore if a patient presents with fever of unknown origin and chest pain, the possibility of IE with AMI should be considered. And also the dissemination of septic emboli should be evaluated. Brain magnetic resonance imaging should be done for evaluation of the cerebral embolism, because if present it is an essential indication for elective valve replacement surgery. Our patient was managed conservatively with antiplatelets, statins and anticoagulant therapy.

END NOTE

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Conflict of Interest: None declared

Editor's Remarks: Acute Coronary syndrome precipitated by Septic emboli from vegetations present in cases of Infective Endocarditis is rare. This case report discusses the detection, evaluation and management of such a case.

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