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ACUTE MYOCARDIAL INFARCTION WITH INFECTIVE ENDOCARDITIS A DEVASTATING OUTCOME

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MFM conceived idea, did literature review and final drafting. KI reviewed case report. MFM, AN helped in acquiring photographs and related material. All authors contributed significantly to the submitted manuscript.

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ABSTRACT

Systemic embolization is a common complication of infective endocarditis with reported incidence of 45-60% but in comparison to systemic, coronary embolization is a rare and fatal complication. Identifying non-atherosclerotic causes of myocardial infarction, this can have consequences on short and long term management of disease. We report case of a 29 years old male suffering from infective endocarditis presented with ST elevation myocardial infarction.

Key Words: Acute Myocardial Infarction, Non-atherosclerotic MI, Infective endocarditis

INTRODUCTION

Despite adequate therapeutic options and advanced imaging studies mortality in infective endocarditis is still high documented up to 25%.[1] Systemic embolization is reported about 45-60% and most frequently involving central nervous system, spleen, liver, kidney, iliac and mesenteric arteries but it rarely involves coronaries 1%.[2] Although the incidence of acute myocardial infarction in patients with native wall endocarditis is quiet low but it is a fatal complication.[3] Early diagnosis and management including surgical options can make the prognosis better and decrease mortality.

CASE REPORT

A 29 years old male initially presented to a local hospital with chest pain for 2 hours and fever for three weeks, initial ECG showed ST elevation from V1 to V6. Patient got thrombolysed with streptokinase. Patient referred to Punjab institute of cardiology for further management. Patient received in cardiogenic shock with heart rate 122/min and blood pressure 80/55mm of Hg. In physical examination there were course crepts up to mid chest and systolic and diastolic murmur in precordium. Patient managed with ionotropic support. Echocardiography performed which showed dilated LV, LA and RV with severe mitral and aortic regurgitation and presence of highly mobile vegetations measuring 18x7 mm on anterior mitral leaflet and 9x4 mm on non coronary cusp of aortic valve as shown in figure 1,2,3,4. TLC count was 27000 cells/μl with raised CRP and ESR and

Troponin levels. Serum creatinine was 1mg/dl and blood urea was 24 mg/dl. Sodium was 145mmol/L and serum Potassium 3.9 mmol/L. Blood cultures came positive for S.aureus growth. CT angiogram was planned followed by surgery but patient could not survive from highest mortality of complicated infective endocarditis. The cause of myocardial infarction in this patient was embolized vegetation.

Figure 1: Vegetation on AML

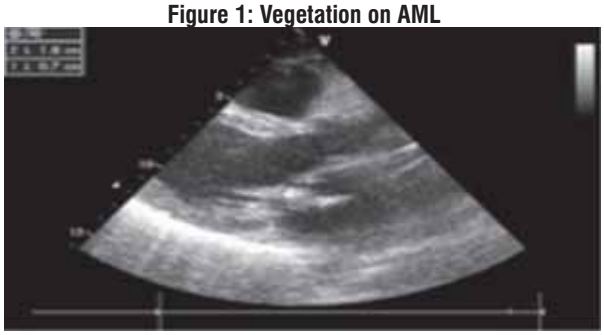


Figure 2: Vegetation on Aortic Valve

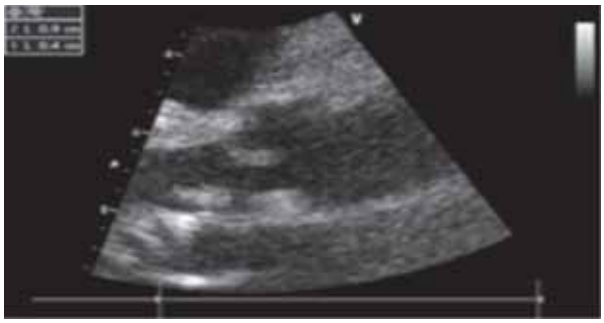


Figure 3: Severe Aortic Regurgitation

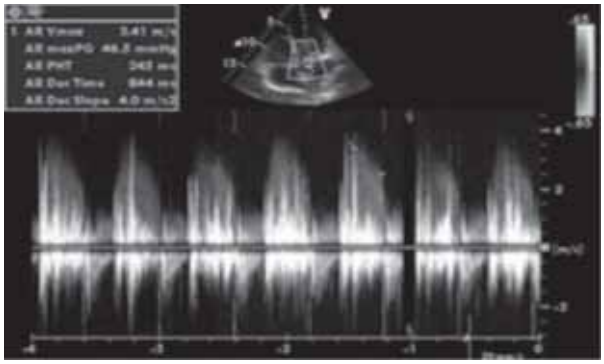
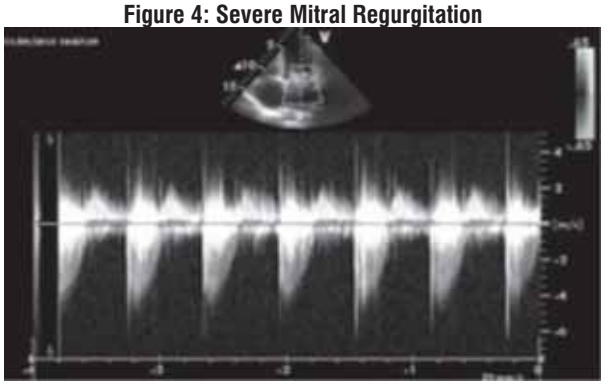


Figure 4: Severe Mitral Regurgitation



DISCUSSION

Although many arterial beds are involves but most common target of systemic embolization in infective endocarditidis is central nervous system circulation (65%).Coronary involvement is rare but when occurs it mostly involves left anterior descending artery. Anatomical explanation of this involvement is downward course of anterior descending artery as compared to left circumflex and right coronary artery that originates at right angle from aortic cusps.[3] Incidence of septic embolization is less with aortic valve endocarditis as compared to mitral valve endocarditis.[4] The incidence of cardiogenic shock is more with aortic valve endocarditis.[5] Embolization risk increases with the size > 1cm in diameter as in our case.[6]

Literature lacks any clear evidence for patients presenting with acute myocardial infarction as a complication of infective endocarditis. Thrombolytic therapy carries a higher risk of intracerbral bleed while percutaneous coronary intervention is associated with localized coronary anneurysmal dilatation, distal vegetation embolization and stent infection.[7-9]

Surgical coronary embolectomy can be considered if patient is unstable, and it was successful in one case. Although surgery carries a higher operative risk but a possible demerit of conservative management is increased risk of myocarditis followed by cardiac rupture.[10]

CONCLUSION

We report rare case of a patient presenting with acute myocardial infarction and suffering from underlying infective endocarditis. If a patient with history of fever presents with chest pain, the possibility of infective endocarditis with acute myocardial infarction should be considered. Early identification and availing surgical options can decrease mortality.

REFERENCES

1. F. Thuny, G. Di Salvo, O. Belliard, J.F. Avierinos, V. Pergola, V. Rosenberg, J.P. et al.Risk of embolism and death in infective endocarditis: prognostic value of echocardiography: a prospective multicenter studyCirculation, 112 (2005), 69–75.
2. C.A. Herzog, T.D. Henry, S.D. Zimmer.Bacterial endocarditis presenting as acute myocardial infarction: a cautionary note for the era of reperfusion.Am J Med, 90 (1991), 392–7.
3. M.C. Manzano, I. Vilacosta, J.A. San Román, P. Aragoncillo, C. Sarriá, D. López, J. et al .Acute coronary syndrome in infective endocarditis.Rev EspCardiol, 60 (2007), 24–31.

4. A.S. Bayer, A.F. Bolger, K.A. Taubert, W. Wilson, J. Steckelberg, A.W. Karchmer, M. Levison, H.F. Chambers, A.S. Dajani, M.H. Gewitz, J.W. Newburger, M.A. Gerber, S.T. Shulman, T.J. Pallasch, T.W. Gage, et al.Diagnosis and management of infective endocarditis and its complications. Circulation, 98(1998), pp. 2936–48

5. Wilson, Walter, et al. "Prevention of Infective Endocarditis Guidelines From the American Heart Association: A Guideline From the American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee, Council on Cardiovascular Disease in the Young, and the Council on Clinical Cardiology, Council on Cardiovascular Surgery and Anesthesia, and the Quality of Care and Outcomes Research Interdisciplinary Working Group." Circulation 116.15 (2007): 1736-54.

6. Luther V, Showkathali R, Gamma R. Chest pain with ST segment elevation in a patient with prosthetic aortic valve infective endocarditis: a case report. Journal of medical case reports. 2011;5:408.

7. Glazier JJ: Interventional treatment of septic coronary embolism: Sailing into uncharted and dangerous waters. J IntervCardiol 2002, 15:305-7.

8. Hunter AJ, Girard DE: Thrombolytics in infectious endocarditis associated myocardial infarction. J Emerg Med 2001, 21:401-6.

9. Herzog CA, Henry TD, Zimmer SD: Bacterial endocarditis presenting as acute myocardial infarction: a cautionary note for the era of reperfusion. Am J Med 1991, 90:392-7.

10. M.J. Beak, H.K. Kim, C.W. Yu, C.Y. Na Mitral valve surgery with surgical embolectomy for mitral valve endocarditis complicated by septic coronary embolism Eur J CardiothoracSurg, 2008, (33); 116–8.