



## A Case report on ischemic mitral regurgitation

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### Abstract

Ischemic Mitral regurgitation is a leakage of blood backward through the mitral valve each time the left ventricle contraction. Patients are often ill with significant hemodynamic instability (Acute) needs urgent medical treatment. During normal cycle mitral valve (bicuspid valve) opens and closes normally. But in mitral regurgitation mitral valve does not opens and closes properly. The blood from right atrium moves to right ventricle then mitral valve does not closes properly leads to blood ejected back to right atrium which results in pulmonary edema and increases pulmonary hypertension. Ischemic Mitral regurgitation leads to complication of acute myocardial infarction and coronary artery disease.



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### Introduction

Ischemic mitral regurgitation is characterized by ischemic heart disease due to changes in the left ventricular structure and function [1]. Ischemic MR is associated with decreases in long term survival in post MI and post revascularization patients. Ischemic regurgitation is divided into primary MR and secondary MR. Primary MR is not associated with any changes but in the secondary MR occurs due to LV remodeling by cardiomyopathy or coronary artery disease. MR results unbalance between increased and decreased closing of valves. It is classified into Type-1 normal occurs right dilatation, perforation and cleft. Type- II which is excessive occurs chordal or papillary muscle rupture and elongation, type-III restrictive which is therefore, characterized into sub types- IIIA-structural changes during systole and diastole, IIIB-functional changes during systole and diastole, calcification leaflets [2]. Mitral regurgitation is also called floppy valve. The blood flows from the left atrium to left ventricle then to aorta and then rest of the body but in the mitral regurgitation the blood flows from left ventricle to left atrium and then lungs leads to complications. The major causes of mitral valve regurgitation is LV dilation (enlargement), after myocardial infarction remodeling of post myocardial infarction, dilated cardiomyopathy it may be ischemic or non ischemic and rheumatic heart disease, endocarditis, papillary muscle dysfunction/ chordate tendinae and calcification. Mitral regurgitation is classified into acute MR in which papillary muscle can rupture leads to heart attack symptoms include pulmonary edema, CHF which is a medical emergency. Chronic MR leads to dilated ischemic cardiac myopathy symptoms include fatigue, SOB, pulmonary congestion/ edema [3].

Ischemic MR is present in 10% of patients with coronary artery disease, 70% of CHF in U.S is due to ischemic cardiomyopathy. IMR present in 1.6-2.8 million Americans.

Surgical procedure for IMR is downsizing annuloplasty ring, left ventricle remodeling, repair > 30% recurrence of moderate MR, moderate MR did not progress into severe MR. It is a disease of the ventricle need papillary muscle techniques like papillary muscle relocation.

### Case Report

A 56 years old male patient presented to general medicine with chief complaints of pain in the anterior chest wall, sweating, cough, headache, palpitations and fever since 3 days.

Patient was apparently normal 3 days back, later developed chest pain associated with fever, chest pain from 2 days aggravated from yesterday night which is central and radiating to back and 2 episodes of loose stools and vomiting. Associated with profuse sweating, fever high grade associated with chills and rigors relieved with medication. Patient developed PND, orthopnea and chest pain palpitations. Having 2 episodes of diarrhea with the shortness of breath. SOB from two days which is insidious in onset, gradually progressed from grade-II to grade IV from yesterday night. General examination found to be blood pressure: 140/80 mm hg, pulse rate: 112 BPM and SPO<sub>2</sub>:95%, respiratory rate: 18/min and temperature: a febrile.

Systemic examination found to be: cardiovascular system investigations –S<sub>1</sub>S<sub>2</sub> present, pansystolic murmur present and early diastolic murmur present.

Laboratory investigations found to be: hemoglobin%: 11.4 grams %, R.B.C:3.65 millions/cumm, PCV :29.4%, MCV :80.7 cumm, MCH:31.2 p. gram, MCHC:38.7%, platelets:3.26lakhs/cumm, W.B.C :9000cells/cumm,

neutrophils: 72%, lymphocytes: 19%, eosophils:6%, monocytes:3% and basophils:0% and widal test positive S TYPHI "O": 1:80 dilutions and S THYPHI "H" : 1:80 dilutions.

ECG findings found to be: heart rate -117 bpm, QRS duration - 83 ms, P/QRS/T Axis: 51/-58/-5, RV5+SV1 voltage :0.16 mV, PR interval :146 ms, QT/QTs interval :338/471ms and RV5/SV1 voltage :0.16/0.00 mV, analysis found to be sinus tachycardia, anterioseptal myocardial and T wave abnormalities anterio- lateral ischemia found in (v5, V6).

Based on the above subjective and objective evidence, the diagnosis was made as anterior wall myocardial infarction with ischemic regurgitation.

The treatment given to this patient: T. lasix- 20 mg, T. aspirin 150mg (OD), T. clopidogrel 7mg (OD), T. atorvastatin 5mg, T. sorbitol 10 mg TID, T. enalapril 2.5 mgOD, INJ pantop- 40mg OD, inj tenectapase given when necessary.

The treatment changed to T. pantop 40mg, INJ heprin TID, syp. Sulbacef 10ml, Inj neomal 100ml, Inj lasix 40mg, T. enalapril 2.5mg. Monitor vitals should be necessary.

## Discussion

Ischemic mitral regurgitation is an defect in the mitral valve unable to opens and closes properly leads to complications in the patient and change of the left ventricular structure and functions. A 56 years old male patient came with fever and post myocardial infarction

The treatment based upon the severity of the symptoms having known severe complications like pulmonary edema and coronary artery disease. Patient having history of long term usage of medications changes of the regular treatment based on the patient symptoms and speedy recovery. Based on the precautionary measures patients came to discharge at the early stages but patient must take regular check up and regular monitoring should be necessary.

## Conclusion

Ischemic mitral regurgitation is a rare complication from the myocardial infarction the chances for the patient is 60% and maximum people with this condition reaches to mortality rate. The people are a surgical emergency condition. MR repair and reconstructive surgery helps the patient to improve the patient's quality of life.

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## References

1. Prof. Praveen kerala varma, division of cardiac surgery, amrita institute of medical sciences. Kochi-682 041, kerala, India.
2. Eustachio Agricola, Michele Agricola, Michele Oppizzi, Matteo pisani, Alesssandra Meris, Franscesco Meris, Francesco Maisano, Alberto Margonato-17600766, 10.1016/ j.euje.2007.03.034.
3. coleman, wisely MPAS, PA-C, Weidman-Evans, EMILY pharD, BC-ADM; Clawson, Rebecca PA-C, mat30(6):p 11-14, june 2017, DOI: 10.1097/01.JAA.0000516342.41351.6d.