RARE CASE REPORT

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A LARGE LEFT VENTRICULAR PSEUDO-ANEURYSM DETECTED 5YEARS AFTER ACUTE MYOCARDIAL INFARCTION

General Medicine

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ABSTRACT

Left Ventricular pseudo-aneurysms are false aneurysms that result from contained myocardial rupture, a rare complication of myocardial infarction, occurring most often 3-7 days post-MI1. The cardiac rupture is contained by adherent pericardium or scar tissue. In contrast, Left Ventricular aneurysm has a wall of scarred myocardium. A pseudo-aneurysm typically has a narrow neck, the breach in LV wall being less than 50% of its maximal diameter, while true aneurysm has a wider base. Pseudo-aneurysms have to & fro blood flow into the cavity, contained by pericardium, thrombus or adhesions. The natural history of surgically treated and untreated left ventricular pseudo-aneurysms is not clearly defined and is based on retrospective single centre case series[7,8]. Diagnosis is confirmed by Cardiac Angiography, 2D Echocardiography, Cardiac CT or MRI.

We hereby present a case of a large left ventricular pseudo-aneurysm presenting with intermittent high grade fever, palpitations and chest discomfort, five years after inferior myocardial infarction which was managed with PCI/PTCA with stent in proximal left circumflex on admission.

KEYWORDS

MI- Myocardial Infarction, CAD- Coronary artery disease, PCI- Percutaneous coronary intervention, PTCA- Percutaneous transluminal coronary angioplasty.

INTRODUCTION

Left Ventricular aneurysms and pseudo-aneurysms are two complications of myocardial infarction that lead to death or serious morbidity and occur in 3-7 days post-MI[1]. Pseudo-aneurysm is a result of rupture of free ventricular wall, contained by overlying adherent pericardium2. True aneurysms are defined as areas of thinned myocardium which are dyskinetic and involve full thickness of the wall6. In pseudo-aneurysm, neck is narrower than its diameter, in contrast to true aneurysm which has wider neck, i.e. more than 50% of its diameter3.Pseudo-aneurysms are located mostly in posterior or lateral wall segments while true aneurysms are seen in anterior wall or apex.[2,3] Pseudo-aneurysms are at a higher risk of rupture, i.e. 30-45%[4]. Other pre-disposing conditions of pseudo-aneurysms are ablation procedures of left ventricle and atria, chest trauma, surgery for congenital heart disease or aortic or mitral valve, endocarditis, PCI, infection of bypass grafts or sutures etc.[5]. In a population at risk, the myocardial rupture or rupture of pseudo-aneurysm is associated with tamponade, shock or sudden death[4]. Before rupture, patients present with chest pain, heart failure, embolisations or infection but no specific signs or symptoms may be seen. Therefore, imaging is required to diagnose it and account for signs and symptoms. Initial evaluation with chest X-ray or transthoracic echocardiography may be unrewarding, but in suspected cases , cardiac angiography , trans- esophageal echocardiography , cardiac CT & MRI will have higher diagnostic yield[6]. Complications of untreated pseudo-aneurysms of left ventricle are rupture, thromboembolism, compression of nearby structures, infection, arrhythmias and decreased cardiac output[7]. Risk of rupture is as high as 30-45%4. Treatment option is mainly repair or patch closure (especially if acute or associated with symptoms), although high mortality is reported8. However in patients with high risk of surgical intervention, particularly if it is chronic in nature, conservative management in the form of good blood pressure control to reduce chances of rupture or anti thrombotic / anti-coagulant treatment to reduce thromboembolic episodes is prudent5.

CASE SUMMARY

A 70 years old male admitted with high grade intermittent fever, generalized bodyaches, left sided chest discomfort and palpitations since 26 days prior to admission in hospital.

Past history of CAD was present. Patient had Acute Inferior Wall myocardial infarction 5 years before, which was managed by PCI within 24 hours of admission in a cardiac institute in Punjab. PTCA was done with stent in Left Circumflex coronary artery, which was found blocked 100%. Patient was still on nitrates, aspirin and metoprolol .

On examination, patient looked pale & weak, B.P. was 110/70 mm hg, respiratory system was normal while CVS revealed cardiomegaly and systolic murmur at apex. Investigations revealed Haemoglobin 11.7gm/dl, TLC 15,600/cu mm, DLC P72 L25 M2 E1, Platelet count of 4,73,000/cu mm, ESR 100 mm hg , Urea 96 mg% , Creatinine 2.94mg% , Sugar 96 mg/dl and normal Liver functions. Urine examination revealed albumin 1+, 2-3 rbcs/HPF & 5-7 wbcs/HPF and Blood culture was negative.

ECG showed ST elevation in I, aVL, V6 & ST depression in V1-V4. Chest X-Ray-PA view: Cardiomegaly s/o LV aneurysm (Picture 1), 2D Echocardiography: ruptured lateral wall of LV with large pseudo-aneurysm (approx. 11cm*11cm) containing a large clot (**Picture 2**).

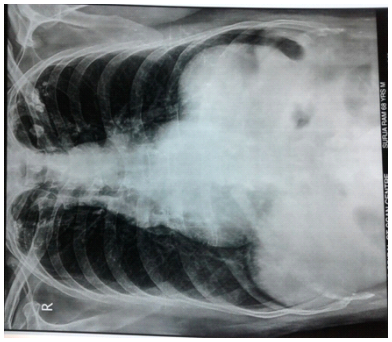
CT Scan Thorax = Large pseudo-aneurysm (**Picture 3**)

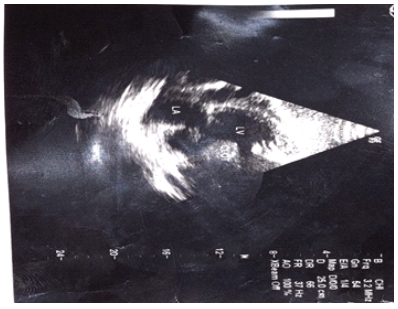
Pt. was put on treatment for suspected infective endocarditis with ceftriaxone/ netilmycin/ linezolid for 2 weeks. Patient became afebrile after 5 days with improvement in blood counts and kidney functions (Haemoglobin 10.8gm/dl, TLC 9,500/cu mm, Urea 30 mg% and creatinine 0.89 mg %).

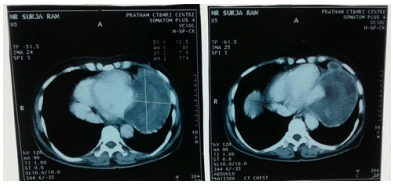
On discharge after 14 days, pt. was better & asymptomatic and was referred for surgery, but did not accept it. After 6 months, he continued to live with minimal symptoms.

DISCUSSION

Left ventricular aneurysms are most commonly caused by myocardial infarction4. True aneurysms are defined as areas of thinned myocardium which are dyskinetic and involve full thickness of the wall while false aneurysms are result of rupture of myocardial wall, contained by overlying adherent pericardium1. Pseudo aneurysms can be acute (less than 3 months) or chronic and small and large. Our patient had a large and chronic pseudo aneurysm which was probably infected, leading to sepsis and acute kidney injury which responds to antibiotics & fluid management. Most investigators recommend surgery as treatment of choice in suitable patients with LV pseudo-aneurysms as the risk of fatal rupture is felt to outweigh the risk of surgery9. However, due to its size and chronicity, the surgical outcome is poor and patient can be managed on conservative lines if the family & patient does not want to take the risk.







REFERENCES

1) Robbins SL, Kumar V et.al.: True versus False Left Ventricular aneurysm: differentiation with MR imaging- initial experience. Radiology 2005; 236(1):65-70.
2) Brown SL, Gropler RJ, Harris KM: Distinguishing LV aneurysm from pseudoaneurysm: a review of literature. Chest 1997: 111: 1403-9.
3) Tuan J, Kaivani F et.al. : Left ventricular pseudoaneurysm. Eur J Echocard. 2008; 9(1):107-9.
4) Vlodaver Z, Coe JI, Edwards JE. True and false left ventricular aneurysms: propensity of the latter to rupture. Circulation 1975; 51: 567-72.
5) Edward A Hulten, Ron Blankstein: clinician update: pseudo-aneurysms of the heart. Circulation 2012; 125:1920-25.
6) Antman EM: Treatment of ST elevation Myocardial Infarction. Braunwalds Heart Disease: A Textbook of cardiovascular medicine. 9th Ed. Philadelphia: 2012.
7) Frances C, Romero A et.al. : Left ventricular pseudoaneuyrsm. J Am Coll cardiology 1998; 32: 557-561.
8) Atik FA, Navia JL et.al. : Surgical treatment of post-infarction left ventricular pseudoaneurysm. Ann. Thorac. Surg. 2007; 83: 526-31.
9) Pretre R, Linka A et.al. : Surgical treatment of acquired left ventricular pseudoaneurysm. Ann. Thorac. Surg. 2000. ; 70; 553-7.