ISSN No:-2456-2165

An Interesting Case of Large Intramyocardial Dissection with Haematoma

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Abstract:- Intramyocardial dissecting haematoma (IDH) is a uncommon complication of myocardial infarction, with very few case reported till date . Before the era of non-invasive imaging techniques, the diagnosis of IDH was made at autopsy. Commonly IDH may involve the ventricles and or the IVS. We are discussing a case of acute anterolateral myocardial infarction with intramyocardial dissection with haematoma and the use of echocardiography in the management of this rare complication. Using bedside echo continuous monitoring of the dissection, progression of haematoma can be evaluated. The differential echogenicty of fluid and clotted blood can be compared easily with the surrounding myocardial structures, making it easier to constantly monitor the evolution of this complication.

I. INTRODUCTION

Intramyocardial dissecting haematoma (IDH) is a rare form of myocardial injury complicating acute myocardial infarction. Other few causes of IDH are as follows: rarely IDH may be seen spontaneously, sometimes after severe trauma to the chest and iaterogenic after reperfusion procedures like percutaneous coronary angioplasty. The lesion follows separation of endocardium due to blood infiltration into the myocardial layers, which causes loss of integriy of cardiac layers namely the endocardium and epicardium . The intramyocardial haematoma occurs probably due to the disruption of intramyocardial vessels and leakage of blood into the extravascular space, weakness of the infarcted tissues and post traumatic sudden rise in the coronary capillary perfusion pressure. The diagnosis of IDH was made by necropsy in earlier times as echocardiography was not available : with invention of echo and bedside use of this technique it is more frequently diagnosed with ease nowadays. IDH as the name suggests involves ventricular and septal myocardium. In our case of IDH after acute anterolateral myocardial infarction, the use of bedside echocardiography in the management of this rare complication is highlighted.

II. CASE REPORT

A female patient aged 58-years a known case of hypertension and IHD on irregular treatment admitted to the emergency cardiac care unit with chief complaints of dyspnea at rest and intermittent chest pain of one day duration . Initial examination of the patient revealed tachycardia pulse rate of 98bpm , 100/46 mm Hg blood pressure, 88% oxygen saturation on room air and 36.8°C of temperature. Cardiovascular examination revealed normal first and second heart sounds, without any cardiac murmurs. Fine basal crepitations were heard in both lungs. The ECG showed sinus rhythm, QS pattern in V3–V6, and ST elevation with inverted T waves in V2–V6 (Figure 1) suggestive of AWMI. The transthoracic echocardiogram at admission was done which showed a moderate LV systolic dysfunction with LVEF of 35% regional wall motion abnormalities in LV :with akinesia of the apex and mid-apical segments of the anterior and septal walls . Along with these findings in the left ventricle at the apical area a pulsating cystic lesion surrounded by a thin undulating endocardium was noted. Colour-Doppler examination did not reveal any intra lesional colour flow suggestive of no flow within the cavity. Surrounding epicarial layer was intact. There was no flow into or outside the surrounding endocarium or epicardial surfaces. There was no pericardial collection of fluid or evidence of epicardial disruption . (Figure 2A1). These findings were suggestive of a IDH. Blood examination for biochemical parameters showed raised cardiac biomarkers above normal range . These findings were suggestive of acute ST elevation anterior myocardial infarction complicated with probable IDH. The patient was admitted to the coronary care unit, on antiplatelet agent and anticoagulation treatment. Two days later after starting anticoagulation a subsequent echocardiogram, showed extention of the intramyocardial dissection further in to the adjacent apical-lateral and infero -lateral segments and increased echogenicity within the dissection suggestive of probable clotting inside the cavity (Figure2B and C; , Video 2)Figure 2 Transthoracic 2D-echocardiographic views of intramyocardial dissection with organized thrombus. Figure 1 is theTwelve-lead electrocardiogram showing sinus rhythm, QS pattern in V3-V6 and ST elevation with inverted T waves in V2-V6, consistent with evolving anterior myocardial infarction. The patient was managed medically and surgical reference was given. A conservative approach was taken as the patient had serious comorbidities and high risk of surgical

intervention. Patient was being monitored in ccu and she expired on the 4th day after admission.

III. DISCUSSION

IDH is a very infrequent complication of the acute phase of myocardial infarction, with very few reports available at present . The underlying pathological mechanism is a haemorrhage dissecting into the compact myocardial fibres separating the layers of the myocardium. The dissection may be limited to the myocardial wall and or the colletion may gradually expand. Rarely the endocarium or epicarium may rupture causing communication into adjacent structures. The IDH, if smaller in size may spontaneously resolve and disappear completely due to absorption of intracavitary collected blood. In cases of large IDH diagnosis was made either at surgery, post-mortem examination or by echocardiography. The prognosis of intramyocardial dissection was poor untill now in those patients who did not undergo surgery. At present, more cases are being reported than earlier times and are suggestive of favourable outcomes with conservative treatment in patients with clinical and haemodynamic stability, in whom echocardiographic monitoring shows a progressive clotting of the dissecting haematoma with no further complications or myocardial rupture. In the case presented, in spite of double antiplatelet therapy and anticoagulation, the IDH evolved to partial thrombosis and also further enlagement due to continued dissection of myocardial layers. Its extension was not related to the pharmacological treatment. Differential diagnosis includes pseudoaneurysm, intracavitary thrombosis or prominent ventricular trabeculations. In case of pseudoaneurysm demonstrating a complete rupture of the myocardial wall contained by the pericardium helps to identify the lesion. The clear continuity of endocardial border is the key point to clinche the diagnosis in intra cavitary thrombosis . A completely irregular shape of the ventricular wall with flow within it is the hallmark of prominent trabeculations. In this case the utility of echocardiography for the diagnosis and follow-up of this kind of lesions is clearly documented and the evolving nature of intramyocardial haematoma is demonstrated. Echocardiography is useful for frequent and continous monitoring of the lesion, to document the evolution of various stages of clotting and dissolution of the intramyocardial haematoma: as well as its extension through the myocardial dissection, its relation to ventricular space and pericardiac space, the maintained integrity of the epicardial and endocardial layers by ruling out discontinuity echocardiographically . Other useful investigative modalities like cardiac CT and cardiac magnetic resonance imaging can be used if available for managing cases of IDH and to demonstrate the exact anatomy of the lesion. Serial two-dimensional echocardiography is a very useful imaging tool ideally suited for initial identification and follow-up this entity at the patient's bedside without causing much discomfort to the patient .

REFERENCES

[1]. Moham JC, Agarwala R, Khanna SK. Dissecting intramyocardial hematoma presenting as a massive pseudotumor of the right ventricle. Am Heart J 1992;124:1641–2.
[2]. Maselli D, Micalizzi E, Pizio R, Audo A, De Gasperis C. Posttraumatic left ventricular pseudoaneurysm due to intramyocardial dissecting hematoma. Ann Thorac Surg 1997;64:830–1.
[3]. Slepian R, Salemi A, Min J, Skubas N. A hypo-echoic, intramyocardial space: echocardiographic characteristics of an intramyocardial dissecting hematoma. Anesth Analg 2007;105:1564–6.
[4]. Harpaz D, Kriwisky M, Cohen AJ, Medalion B, Rozenman Y. Unusual form of cardiac rupture: sealed subacute left ventricular free wall rupture, evolving to intramyocardial dissecting hematoma and to pseudoaneurysm formation—a case report and review of the literature. J Am Soc Echocardiogr 2001;14:219–27.
[5]. Pliam MB, Sternlieb JJ. Intramyocardial dissecting hematoma: An unusual form of subacute cardiac rupture. J Card Surg 1993;8:628–37
[6]. Saxena A, Karthikeyan C, Rajani M, Dhopeshwarkar R. Spontaneous resolution of intramyocardial hematoma of the left ventricle. Indian Heart J 2001;53:340–2.
[7]. Nilkanth V, Madhukar A, Lokhandwala Y. Intramyocardial dissecting hematoma. Circulation 1998;97:2470–2.
[8]. Nakata A, Hirota S, Tsuji H, Takazakura E. Interventricular septal dissection in a patient with an old myocardial infarction. Intern Med 1996;35: 33–5.
[9]. Jime´nez J, Almerı´a C, Zamorano Jl, Alfolso F, Ribera J, Sanche´z-Harguindey L. Diseccio´n intramioca´rdica postinfarto de la pared posterior del ventri´culo izquierdo con comunicacio´n con el seno coronario. Rev Esp Cardiol 2001;54:247–9.
[10]. Meyers DG, Lund GB, Moulton AL, Robinson LA. Dissecting intramyocardial hematoma masquerading as a pseudoaneurysm of the left ventricle. Cathet Cardiovasc Diagn 1989;17:31–3.
[11]. Sto¨llberger C, Finsterer J, Waldenberger FR, Hainfellner JA, Ullrich R. Intramyocardial hematoma mimicking abnormal left ventricular trabeculation. J Am Soc Echocardiogr 2001;14:1030–2

ISSN No:-2456-2165

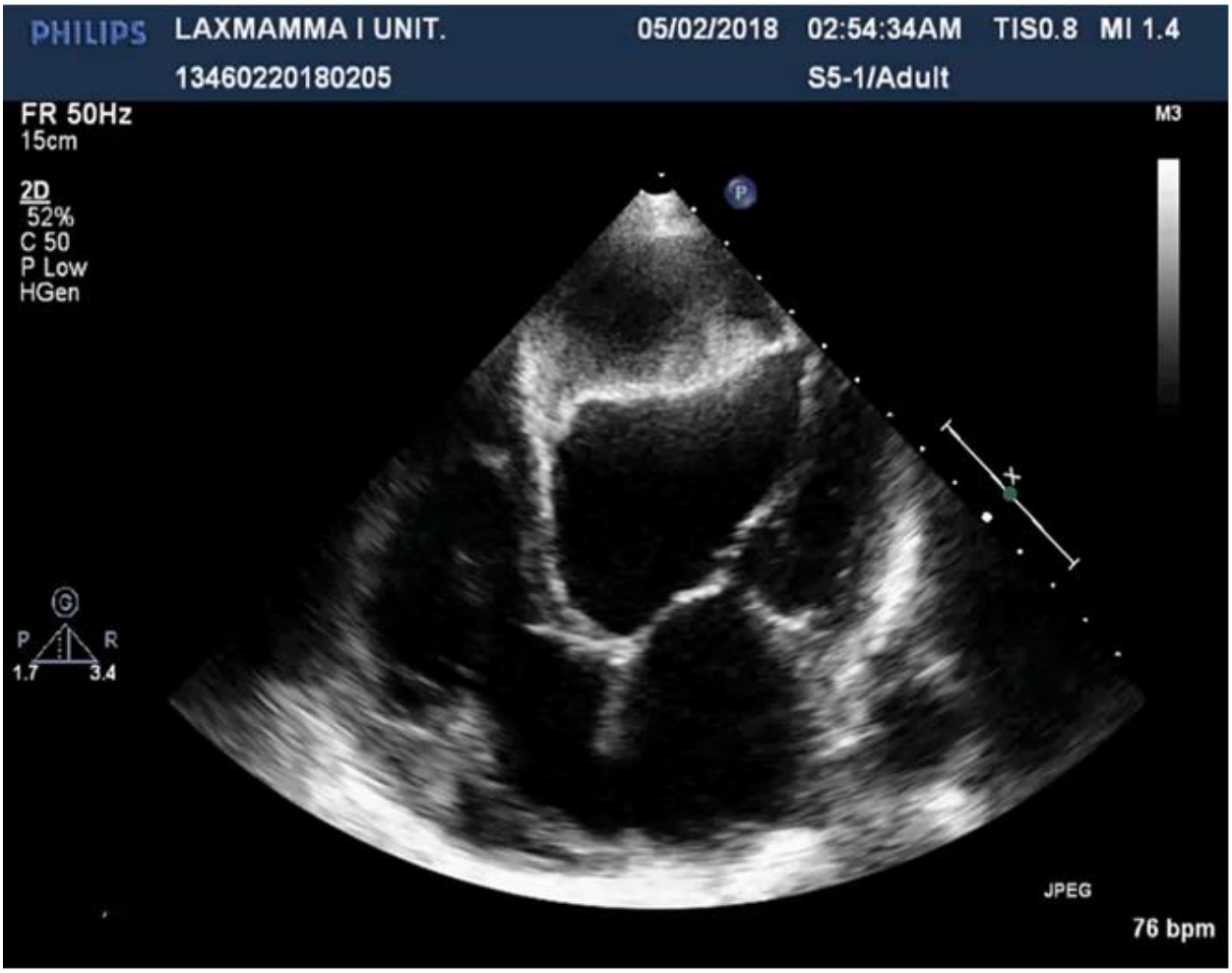

Fig 1

Fig 2