Case Report

Cardiac Tamponade an Unusual Presentation of SLE — A Case Report

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Systemic Lupus Erythematous (SLE) is an immune mediated disease, having variety of clinical manifestations but Cardiac Tamponade is rare as initial presentation. We are presenting an unusual case of cardiac tamponade as initial manifestation of SLE, which was also associated with Mitral Valve Vegetation, Posterior Reversible Encephalopathy Syndrome (PRESS); successfully responded to Pericardiocentesis, Steroids and Antimalarials.

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***Key words* : Systemic Lupus Erythematous (SLE), Cardiac Tamponade Nonbacterial Thrombotic Endocarditis, Posterior Reversible Encephalopathy Syndrome.**

Systemic Lupus Erythematous is an autoimmune disease, presents with broad range of clinical manifestations involving multiple organ systems. Pericarditis, Myocarditis, Endocarditis and conduction system abnormality may be observed in more than 50% of patients,[1] but Cardiac Tamponade being very rare as first manifestation[1]. We are reporting a case of SLE presenting with cardiac tamponade along with non bacterial thrombotic endocarditis, Severe Mitral regurgitation, Neurocognitive Symptoms (PRESS). Patient successfully treated with pericardiocentesis, steroids and antimalarials.

Case Report

21-Year-female, without any previous illness, presented in Emergency Department with severe shortness of breath developing over period of 3 days, associated with bilateral pedal oedema & chest pain. Patient had history of recurrent spontaneous abortion & the last being 3 months ago. On admission patient's BP: 90/60mm/hg, PR: 130/min, SPO2: 94%, RR: 32.TEMP:38.1 F General Examination: Pallor present, pitting oedema, Jugular Venous Pressure (JVP) raised with prominent a wave, S1 S2 muffled but a faint apical systolic murmur present. No palpable organomegaly. Patient was conscious oriented, had no focal neurological deficits. ECG showed sinus tachycardia with low voltage complexes, chest X-Ray showed enlarged Cardiac Silhouette with mild bilateral pleural effusion. Echocardiography on admission revealed massive pericardial effusion 30 mm posteriorly, with features of Cardiac Tamponade. (Right atrium collapse and Right ventricle diastolic collapse, dilated non collapsible IVC, exaggerated respiratory inflow variations across mitral and Tricuspid valve) with Mitral regurgitation (Fig 1).

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Editor's Comment :

- SLE may rarely present with Cardiac tamponade as an initial manifestation. High degree of clinical suspicion with proper evaluation of history, physical findings and investigations will help in early diagnosis.
- Cardiac tamponade in SLE can be effectively managed with pericardiocentesis along with high dose steroids and other immunosupressant's.
- Early institution of pharmacotherapy induces remission and prevents recurrence.

Patient undergone Pericardiocentesis and 1 litre of haemorrhagic fluid were withdrawn. Immediately there was hemodynamic improvement with relief of respiratory distress and improvement of blood pressure to 100/70. After stabilisation, the Systolic Murmur became more prominent and Echocardiography on 3 rd day revealed regression of pericardial effusion and severe MR and a prominent 6×5 mm single vegetation on ventricular aspect of Anterior Mitral Leaflet seen, with preserved left Ventricular Systolic Function (EF=60%)(Fig 2).

Initial blood routine showed Hb:7.7 gm/dl, with Normocytic Normochromic Anaemia, thrombocytopenia with platelet:68000/mm^3,tlc :4300, Serum creatinine: 0.9 mg/dl, e-GFR :110, Urine protein :3+, CRP: 1.9mg/dl, Viral markers: (HBsAg, Anti HCV,HIV) Non-Reactive, INR : 1.15, D-Dimer:2.07microgm/dl. During hospital stay on day 6th patient developed headaches and Generalised Tonic Clonic Seizures (GTCS) with Accelerated Hypertension of 190/110mm/hg. Patient was stabilised with Lorazepam, Phenytoin and Labetalol. Anaemia, Thrombocytopenia, Proteinuria, MR with MV Vegetation, GTCS In a case of tamponade 'All suggestive of underlying SLE'.

ANA : Positive. **Anti-dsDNA :** Negative

ANA Profile :

MRI BRAIN: Showed multiple focal discrete altered signal intensity lesion hyper intense on T2, Fluid-Attenuated Inversion Recovery (FLAIR) & iso to hypo on T1 without any changes in Diffusion Weighted Images (DWI) at both fronto-Parietal-occipital region. Suggestive of

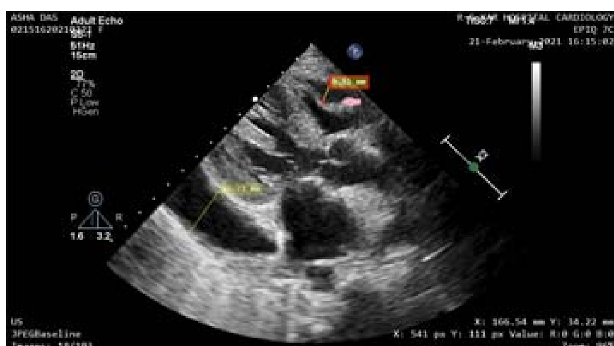

Fig 1 — Parasternal long axis view showing large pericardial effusion 30 mm posteriorly & 10 mm anteriorly with RV diastolic collapse. (Arrow) suggestive of Tamponade.

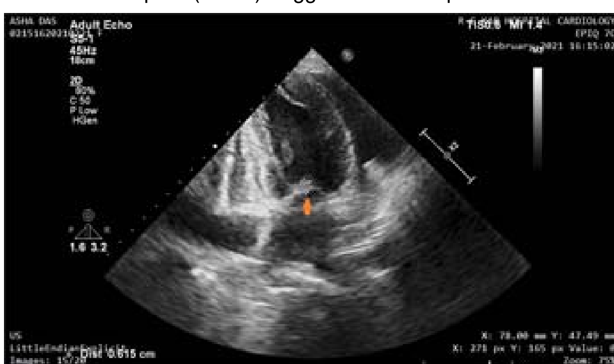

Fig 2 — Apical two chamber view showing vegetation at ventricular aspect of anterior mitral leaflet (AML) (Arrow)

- Reversible-encephalopathy syndrome**.**
- Secondary demyelination.

Pericardial fluid analysis showed TLC 3200 mm^3, 110 RBC /mm^3. ADA: normal, culture showed no growth, cytological evaluation showed no malignant cells.

So the diagnosis made as **CARDIAC TAMPONADE WITH MITRAL VALVE VEGETATION (LIEBMANS SACK ENDOCARDITIS) & REGURGITATION COMPLICATED WITH POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME (PRESS) IN CASE OF SLE.**

Treatment started with Pulse steroid therapy with Intravenous Methylprednisolone 1 gm/day for 3 days followed by oral Prednisolone 40 mg once a day along with Hydroxychloroquin, ARB (Losartan) for Proteinuria and hypertension, Diuretics & PRBC Transfusion. Pre-discharge Echo showed significant regression of pericardial effusion and diminution of mitral valve Vegetation, patient was discharged in stable condition and advised follow up.

Discussion

SLE is an autoimmune disease affecting predominantly females, where Cardiac involvement observed in more than 50% of patients[1]. In the form of Pericarditis, Myocarditis, Valvular involvement, Thrombosis and Conduction disorder[2]. Though Pericarditis being most common, affecting almost 25% of the patients[3] but Cardiac Tamponade is seldom an initial presentation. A large study showed less than 1% of involving with Tamponade out of 1300 patients[4]. Our

Table 1 — *Sero-immunoassay*

Antigen	Intensity	Class
RNP/sm(RNP/sm)	86	+++
Sm(Sm)	90	+++
Ro-52 recombinant(52)	57	+++
PCNA(PCNA)	37	++
Histones(Hi)	39	++
Ribosomal -P-protein(RIB)	42	++

patient presented unusually with Dyspnoea, Swelling over body, Chest pain initial diagnosis made on basis of clinical findings, ECG and Echocardiography finding as Cardiac tamponade. Patient was found to be Anaemic and Thrombocytopenic & unmasking of hypertension detected after Pericardiocentesis. During hospital stay patient developed Neurocognitive symptoms with seizures. Our patient fulfilled 2019 European league against rheumatism/ American college of rheumatism (EULAR/ACR) criteria for SLE (highly positive ANA with 29 points) & 2012 Systemic Lupus Collaborating Clinics (SLICC) criteria for SLE 6 out of 17 including clinical and seroimmunoassay. (Table 1)[5] Patients MRI brain imaging was suggestive of Reversible Encephalopathy Syndrome. Patient's symptoms were not attributable to infections, medication, hypothyroidism and malignancy hence final diagnosis of SLE confirmed. Patient responded dramatically to percardiocentesis, high dose steroids & antimalarials.

Conclusion

Cardiac Tamponade may be a rare initial presentation of SLE**.** Emergency Pericardiocentesis is life saving and provides time for further evaluation and management. High degree of clinical suspicion is required to detect other subtle systemic features for underlying aetiology. Early immuno-assay in a clinically suspected case of SLE like Anaemia Thrombocytopenia, Pleuro-pericardial effusion, MR and Mitral Valve Vegetation's, PRESS etc. are rewarding for initiation of effective treatment and remission.

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Conflict of Interest Statement : All authors unanimously declare no conflict of interest.

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