

MASSIVE PERICARDIAL EFFUSION WITH SEPTIC SHOCK ON POST PARTUM PATIENT WITH SYSTEMIC LUPUS ERYTHEMATOSUS : A CASE REPORT

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Abstract

Background : Pericardial effusion is found in around 40% of SLE patients. We report an unusual case of massive pericardial effusion with septic shock. The timely recognition and early steroid administration are imperative in SLE-related with septic shock to prevent the mortality associated with this condition. She improved clinically with the resolution of pericardial effusion and septic shock after treatment of methylprednisolone pulse dose and antibiotics.

Case Illustration : A 17-year-old Madurese woman referred to emergency department with shortness of breath and decreased of consciousness. She also felt cough, persistent chest pain worsening by exercise since 1 month ago, hair loss and arthralgia. She gave birth 36 days before in the shaman. No other past medical and family history was significant for SLE and cardiovascular disease in her family.

On admission, patient was somnolent, anemic, dyspnea, GCS E2V2M5, BP 88/60, HR 107 times per minutes, RR 32 times per minutes, found malar rash, non scarring alopecia, oral ulcer, rales, and pericardial friction rub. Electrocardiogram (ECG) showed sinus tachycardia 110 times per minutes and low voltage. Chest X-ray (CXR) showed a globular shaped enlargement of heart suggestive of pericardial effusion. Laboratory findings are anemia, leucopenia, thrombocytopenia, hypokalemi.

The patient was transferred to ICU, treated with PRC Transfusion, dextrose 10% IV fluid, IV Meropenem, IV Ranitidine, and IV Furosemide, ANA test ds DNA as next diagnostic planning and referred plans to bigger center. Echocardiography showed massive pericardial effusion in right lateral, left lateral without collapsed of RA-RV. After 2 days treatment on ICU, patient was conscious and started oral intake. She started steroid pulse dose on day 4th and moved out from Intensive care unit. Evaluation echocardiography

on day 7th showed moderate pericardial effusion in basal, right lateral and left lateral. right lateral (2,4 cm)

Discussion : Approximately, 90 percent of SLE patient are women¹, this patient is a post partum woman who suffered clinical condition prior to SLE. This patient was satisfied ARA (American Rheumatism Association) diagnostic criteria for malar rash, oral ulcer, non scarring alopecia, arthritis, pericarditis, leucopenia, and thrombocytopenia although she didn't had ANA test and started steroid pulse dose early.

In this patient, Although pericarditis is quite common in SLE, impending cardiac tamponade is reported to be rare, occurring in less than 1% of patients in the large series of SLE patients studied by Dubois and Tuffanelli², Ropes³, and Kong et al⁴ and more difficult to treat due to septic shock and hemodynamic dysfunction. The current literature demonstrates that corticosteroids seem to play an important role in controlling pericarditis and impending cardiac tamponade⁵.

Due to the rarity of hemodynamic effects of pericarditis in patients with SLE and good response to steroid and antibiotics, pericardiocentesis should be reserved for more severe cases, such as management of potentially life-threatening tamponade, persistent large pericardial effusion, or evaluation of possible septic pericarditis. In this case, the patient refused to be referred to bigger center⁶. The acute presentation and hemodynamic parameters of our patient prompted treatment with the combination of steroid pulse dose and accurate antibiotics, resulting in a favorable outcome.

Conclusion : SLE patient with massive pericardial effusion might be administered steroid pulse dose earlier although ANA test is not performed, especially in the center where SLE immunologic test is limited.

Keywords : Impending Cardiac Tamponade, Pericardial Effusion, Septic Shock, SLE

Introduction

Systemic lupus erythematosus (SLE) is a connective tissue disorder which often involves the heart, mostly the pericardium usually manifests as diffuse pericardial effusion.

The 1982 American Rheumatism Association (ARA) or well known as American College of Rheumatology (ACR) criteria summarized features necessary to diagnose SLE.⁷ The following are the ACR diagnostic criteria in SLE (1) Serositis - Pleurisy, pericarditis on examination or

diagnostic electrocardiogram (ECG) or imaging; (2). Oral ulcers - Oral or nasopharyngeal, usually painless; palate is most specific; (3). Arthritis - Nonerosive, 2 or more peripheral joints with tenderness or swelling; (4). Photosensitivity - Unusual skin reaction to light exposure. (5). Blood disorders - Leukopenia ($< 4 \times 10^3$ cells/ μL on >1 occasion), lymphopenia (< 1500 cells/ μL on >1 occasion), thrombocytopenia ($< 100 \times 10^3$ cells/ μL in the absence of offending medications), hemolytic anemia. (6). Renal involvement – Based on presence of proteinuria (>0.5 g/day or 3+ positive on dipstick testing) or cellular casts (including red blood cells [RBCs], hemoglobin, granular, tubular, or mixed) ⁸ or based on the opinion of a rheumatologist or nephrologist ⁸ (7). Antinuclear antibodies (ANAs) - Higher titers generally more specific ($>1:160$); must be in the absence of medications associated with drug-induced lupus; (8). Immunologic phenomena - dsDNA; anti-Smith (Sm) antibodies; antiphospholipid antibodies (anticardiolipin immunoglobulin G [IgG] or immunoglobulin M [IgM] or lupus anticoagulant); biologic false-positive serologic test results for syphilis, lupus erythematosus (LE) cells (omitted in 1997 revised criteria); (9). Neurologic disorder - Seiz--ures or psychosis in the absence of other causes; (10). Malar rash - Fixed erythema over the cheeks and nasal bridge, flat or raised; (11). Discoid rash - Erythematous raised-rimmed lesions with keratotic scaling and follicular plugging, often scarring;

The presence of 4 of the 11 criteria yields a sensitivity of 85% and a specificity of 95% for SLE⁷. Pericardial effusion is found in around 40% of SLE patients. We report an unusual case of massive pericardial effusion with septic shock. The timely recognition and early steroid administration are imperative in SLE-related with septic shock to prevent the mortality associated with this condition. She improved clinically with the resolution of pericardial effusion and septic shock after treatment of methylprednisolone pulse dose and antibiotics.

Case Illustration

A17-year-old Madurese woman referred to emergency department with shortness of breath and decreased of consciousness. She also felt cough, persistent chest pain worsening by exercise since 1 month ago, hair loss and arthralgia. She gave birth 36 days before in the shaman. No other past medical and family history was significant for SLE and cardiovascular disease in her family.

On admission, patient was somnolent, anemic, dyspnea, GCS E2V2M5, BP 88/60, HR 107 times per minutes, RR 32 times per minutes. On the physical examination found malar rash, non scarring alopecia, oral ulcer, rales, and pericardial friction rub. The diagnostic planning are

Electrocardiogram (ECG) showed sinus tachycardia 110 times per minutes and low voltage. Chest X-ray (CXR) showed a globular shaped enlargement of heart suggestive of pericardial effusion. Laboratory findings are anemia, leucopenia, thrombocytopenia, hypokalemi. She was initially diagnosed as cardiomegaly due to peripartum cardiomyopathy, SLE, pneumonia and severe sepsis and was started on fluid therapy and dopamine pump.



Figure 1. Chest X-ray (CXR) showed a globular shaped enlargement of heart suggestive of pericardial effusion.

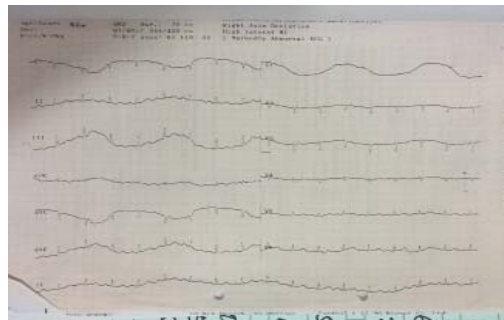


Figure 2. Electrocardiogram showed sinus tachycardia 110 times per minutes and low voltage



Figure 3. Echocardiography before pulse dose steroid admission showed massive pericardial effusion in right lateral, left lateral without collapsed of RA-RV

The patient was transferred to ICU, treated with PRC Transfusion, dextrose 10% IV fluid, IV Meropenem, IV Ranitidine, and IV Furosemide, ANA test ds DNA as next diagnostic planning and referred plans to bigger center. Echocardiography showed massive pericardial effusion in right lateral (2,4 cm), left lateral (1,9 cm) without collapsed of RA-RV. After 2 days treatment on ICU, patient was conscious and started oral intake. She started steroid pulse dose on day 4th and moved out from Intensive care unit. Echocardiography evaluation on day 7th showed moderate pericardial effusion in basal (1,76 cm), right lateral (1,14 cm) and left lateral (0,68 cm).



Figure 4. Echocardiography evaluation showed moderate effusion in basal (1,76 cm)

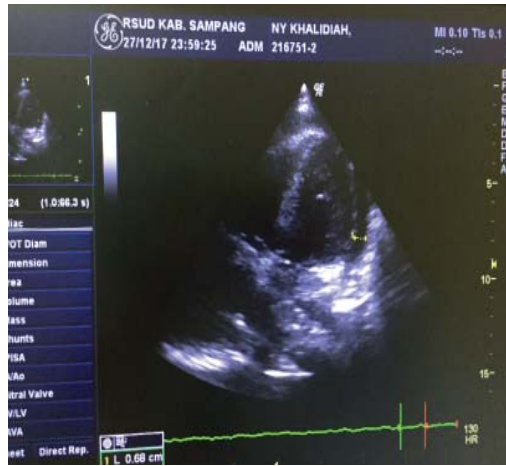


Figure 5. Echocardiography evaluation showed moderate effusion in left lateral (0,68 cm)

Discussion

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Conclusion

SLE patient with massive pericardial effusion might be administered steroid pulse dose earlier although ANA test is not performed, especially in the center where SLE immunologic test is limited.

Reference

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