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A Case Report on Systemic lupus Erythematous Associated with Secondary Anti Phospholipids Syndrome and Thrombocytopenia

Dr. Chennasamudram Chenna Kesavulu[1]*, Dr. D. Giri Raja Sekhar[2]

[1.] Safety Science Analyst, Department of Post Marketing Safety, Fortera Development India Pvt Ltd, Bengaluru, India

[2.] Head and Associate Professor, Annamacharya College of Pharmacy, Rajampet-516115

Email: chennak415@gmail.com

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ABSRACT

Introduction: Systemic lupus erythematous (SLE) is an auto-immune disease where our immune system attacks own tissues and cells by secreting secondary antiphospholipid antibodies which leads to inflammation and multi organ damage. These secondary antiphospholipid antibodies leads to Secondary antiphospholipid syndrome. Prevalence of SLE is high in females of child bearing age and Secondary APS increases risk of miscarriage and thrombocytopenia. Exact etiology of SLE is not known but early diagnosis and treatment can help in preventing lifelong complications.

Case presentation: A 18 years young woman admitted in emergency department with chief complaint of tonic-clonic seizures (3episodes), pedal edema, confusion and chest pain. Patient is known case of systemic lupus erythematous and has a history of induced abortion 1 week back. On examination she had a butterfly like exanthema on her nose & cheeks, ulcers on the soft palate and thrombocytopenia. The serological test shows the anti phospholipids antibody. Laboratory tests reveals anemia, thrombocytopenia and renal dysfunction. **Conclusion:** Systemic Lupus Erythematous symptoms vary widely, understanding complexity of these conditions is need for better diagnosis and more effective treatment.

Key words: Systemic lupus erythematous (SLE), anti phospholipids syndrome (APS), Thrombocytopenia, corticosteroids, Pregnancy miscarriage.

Introduction:

Systemic lupus erythematous (SLE) is a chronic auto immune disease, in which tissues and cells are damaged by auto antibodies and immune complexes. SLE is a highly variable disease that presents wide range of symptoms and they differ from person to person, some patients have very mild disease whereas others may present with serious life threatening complications. Initially it may affect one organ and as disease progress symptoms and complications can spread to other organs. SLE is a multiorgan disease with spontaneous remissions and relapses.[1-2] SLE is difficult to diagnose as symptoms mimic other diseases and moreover there is no single definitive test and its symptoms vary greatly between patients complicating diagnosis.[3]

Antiphospholipid syndrome (APS) is an autoimmune disorder that causes blood clots and pregnancy complications. It occurs when immune system produces antibodies like lupus anticoagulant, anticardiolipin, and anti-beta-2-glycoprotein 1, which erroneously target proteins associated with phospholipids in the blood clotting process. These antibodies interfere with the normal function of endothelial cells, platelets, and clotting factors leading to excessive clot formation. By activating platelets, disrupting anticoagulant mechanisms and by causing endothelial damage these antibodies increase the risk of abnormal blood clots resulting in complications such as deep vein thrombosis, stroke and recurrent miscarriage.[4] APS can be primary or secondary. Primary APS occurs in the absence of any other related disease. Secondary APS occurs with other autoimmune diseases such as systemic lupus erythematous (SLE).[5]

CASE STUDY:

A Patient 18 years woman admitted into the emergency department with chief complaint of tonic-clonic seizures (3episodes), pedal edema, confusion, chest pain and patient had a history of induced abortion 1 week back. She is a known case of systemic lupus erythematous.

On admission her blood pressure 100/60 mm/Hg, pulse rate 82 bpm, respiratory rate 23 beats/min, Oxygen saturation level of 93%. On physical examination the muco-cutaneous lesions included a butterfly like exanthema on her nose and cheeks (fig.1), edematous lips inflamed and angular chelitis. Examining her oral mucosa she had a small ulceration on the soft palate (fig.2). No evidence of cyanosis, clubbing, joint deformities.

Laboratory investigations showed ; RBS: 76 mg/dl, Hb: 8 gm/dl, Platelets: 30000/mm^3, Na+, 131 mM/l, K+, 4.7 mM/ Cl-, 105 mM/l, Neutrophils, 65.4% , Lymphocytes, 32.0%, ESR: 35mm/hr, S.urea: 26 mg/dl, S.cr: 0.6 mg/dl, Pus: 6-8/hpf, Epithelial cells: Total protein: 6.6 gm/dl, Albumin: 3.6

gm/dl, Globulin: 3 gm/dl, A/G ratio: 1:2, 4-6/hpf, Total Bilurubin: 0.7 mg/dl, Direct Bilurubin 0.0 mg/dl, Indirect Bilurubin : 0.7 mg/dl , ALP: 85IU/L, SGOT: 22IU/L, SGPT: 16IU/L, chest x-ray shows normal, ultra sound abdomen revealed cholithiasis, nephritis. The serological test shows the anti phospholipids antibody.

She was treated with Prednisolone 30mg once a day, Ranitidine 300mg once a day, Mycophenolate 720mg twice a day, Metronidazole 400mg thrice a day, serratiopeptidase once a day, B-Complex once a day and sodium valproate 500mg twice a day. Her stay in hospital was 5 days from 22/6/24 to 26/6/24, after showing from symptoms she got discharged on 26/6/24 with medicine prednisolone 30mg/day, Ranitidine 300 mg/day and Sodium valproate 500mg twice a day.

During her hospital stay from 22/6/2024 to 26/6/24, the patient received a carefully chosen combination of medications to treat her symptoms and support her recovery. Prednisolone 30 mg once a day was given to help control inflammation and manage her autoimmune condition. Ranitidine 300 mg once a day was used to alleviate any stomach issues and reduce acid production. Mycophenolate 720 mg twice a day helped to suppress her overactive immune response and manage inflammation. To fight off any potential infections, she was prescribed metronidazole 400 mg thrice a day. Serratiopeptidase once a day was given to reduce inflammation and aid in healing. She also received B-complex vitamins once a day to ensure her body had all the essential nutrients needed for recovery. For seizure management she was on sodium valproate 500 mg twice a day. After showing significant improvement she was discharged with a simplified medication plan continuing with prednisolone 30 mg/day, ranitidine 300 mg/day, and sodium valproate 500 mg twice a day to support her ongoing recovery.

Fig 1. A butterfly like exanthema on her nose and cheeks

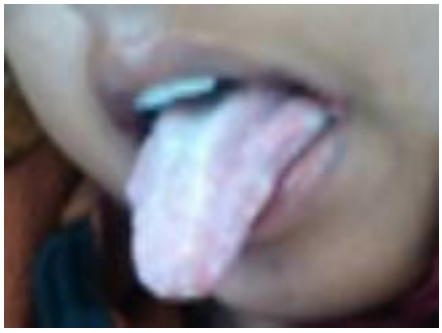

Fig 2. Small ulceration on the soft palate

DISCUSSION:

In this case SLE is diagnosed based on the standard criteria of the American Rheumatism Association. It recommends 4 of the following 11 revised criteria for the diagnosis of SLE: malar rash, discoid rash, photosensitivity, oral ulcers, arthritis, serositis, renal disorder, neurologic disorder, hematologic disorder, immunologic disorder on serologic testing, and antinuclear antibodies.[6] she was clinically diagnosed with five diagnostic criteria naming butterfly like exanthema, oral ulcers, thrombocytopenia, nephritis and abnormal hematological values as per the American Rheumatism Association. The prevalence of thrombocytopenia among APS patients is similar to that of lupus patients and occasionally can be the first manifestation of APS. Thrombocytopenia may be present in 15% of SLE cases. 20%–40% of APS patients have thrombocytopenia but it is usually in mild form with a platelet count above 50,000 per milliliter and around 5-10% of patients will have Severe thrombocytopenia.[7] APS has been described as secondary if there is an associated autoimmune disorder such as SLE or rheumatoid arthritis. People who have the antiphospholipid syndrome have a high risk of blood clots in both the veins like in case of deep vein thrombosis, pulmonary embolism and in arteries like in case of stroke and heart attack. Other features of the antiphospholipid syndrome may include thrombocytopenia, miscarriage or other pregnancy problems and livedo reticularis. About 30% of SLE Patients will develop the antiphospholipid syndrome.[6] Patient has a history of pregnancy miscarriage and is known case of SLE, so doctors have advised for anti phospholipids antibody test and test result is positive. Identification of antiphospholipid antibodies and their association with the main clinical features of APS began in the early 1960s and Close to 40% of SLE patients would eventually develop secondary APS, thus presence of APL in SLE patients should beregarded as a risk factor for the manifestations of APS like thrombosis and abortions. Pregnancy miscarriage at any stage of pregnancy is marked as firstand sign of APS for females.[8] The management of patients with corticosteroids, immunosuppressant and for the reoccurrence of pregnancy loss, blood clots can be treated with anticoagulants. In case of severe thrombocytopenia patient can be managed with blood transfusion. Management strategies will be based on patient symptoms and complications. For those who often experience inflammation or autoimmune diseases, corticosteroids and immunosuppressants are prescribed. In cases of recurrent pregnancy miscarriage or the development of blood clots, anticoagulants are used to prevent further complications. Additionally, when severe thrombocytopenia occurs blood transfusions can be done to restore and maintain healthy blood levels and to reduce risk of bleeding.

Conclusion:

Clinical manifestation of Systemic Lupus Erythematosus and Antiphospholipid Syndrome are diverse and can mimic many other conditions making them important considerations in various differential diagnoses. While the exact cause of these diseases still remains unknown, significant research has

been conducted to understand the mechanisms behind the tissue damage they cause. Recognizing complexity of these diseases highlights need for more precise diagnosis and for development of better targeted therapies to improve patient care.

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