

## Case study

### **A Case Report on Systemic Lupus Erythematosus in a 21 year old Indian Female**

#### **ABSTRACT**

##### **Background:**

SLE is a systemic auto-immune disease that mostly affects females and has a wide range of clinical symptoms and immunological abnormalities. Lupus may have an impact on almost any organ, but the kidney and central nervous system are the most noticeable and destructive. Each patient's level of severity can vary, resulting in anything from little organ damage to significant cutaneous involvement and a long-lasting remission to death. Additionally, the severity of the condition can vary widely, with the majority of patients undergoing flare-ups followed by protracted remissions.

##### **Case presentation:**

A 21-year-old female patient was brought to the female medicine department with the primary symptoms of face rashes, hair loss, abdominal pain dating back eight months, and joint pain spanning two to three years. The patient was diagnosed with SLE based on his medical history, physical examination, and laboratory tests. Her vital signs were continuously watched during her 14-day hospital stay, and several laboratory tests were run to rule out any organ or organ system damage. Her primary drugs were NSAIDs, antimalarials, and corticosteroids.

##### **Conclusion:**

It has been determined that the patient has been afflicted with the disease for the last two years based on investigative reports and patient history. She was unable to timely have a medical examination due to her precarious financial situation, which caused a delay in her treatment. Due to the fact that this ailment can only be controlled and not fully healed, the patient needs therapy and counselling.

**KEY WORDS:** Systemic Lupus Erythematosus, NSAIDs, Immunosuppressant, Corticosteroids.

## **INTRODUCTION:**

SLE is a multi-system autoimmune illness that typically affects women in their reproductive years. SLE often manifests more severely in children and young adults, with a high frequency of nephritis, pericarditis, hepatosplenomegaly, and haematological abnormalities. [1] Regardless of whether the disease is limited to the skin or is a component of a more widespread systemic disease process, as in the case of this reported case, the term cutaneous lupus erythematosus is used to describe people with skin lesions brought on by lupus erythematosus. Although the patho-etiology of SLE is unspecified, it has been ascertained that it is characterised by increased B-cell and T-cell response levels and a loss of immune tolerance to self-antibodies, which results in a variety of distinctive organ failure characterised by various clinical and immunological abnormalities. Environmental, genetic, and hormonal variables all play a role in how SLE develops. Monozygotic twins frequently have a high prevalence of SLE, and the ailment is genetically passed on to progeny. [3] The Centers for Disease Control and Prevention classify the clinical symptoms of SLE into constitutional and organ indications. Examples of constitutional symptoms include fatigue, fever, and weight loss. Indicators of organ damage include butterfly rash, sore muscles and joints, mouth ulcers, photosensitivity, arthritis, arthralgia, pleuritis, discoid lesions, hypertension, stomach pain, etc. SLE, which can also present itself in a variety of ways, may have an effect on any organ system. Arthritis (64-91%), skin lesions (55-86%), renal involvement (28-73%), Raynaud's phenomenon (24-61%) and gastrointestinal problems (39%) are the most prevalent symptoms. the following conditions: pleurisy (27–36%), pericarditis (12–20%), lymphadenopathy (10–30%), nephrotic syndrome (13–14%), lung involvement (7–14%), thrombophlebitis (5%–14%), and myocarditis (2%–3%). SLE patients' clinical symptoms vary not just from one patient to the next but also regionally or owing to racial differences within populations. It should be mentioned that the introduction of standardised and validated instruments for measuring disease activity has tremendously aided in the comparison of disease activity between various cohorts. These include the European Consensus Lupus Activity Measure (ECLAM), the Systemic Lupus Activity Measure (SLAM, SLAM-R, Bilag, if the revised version is used), the SLE Disease Activity Index (SLEDAI, SLEDAI-2K if the revised version is used), and the Systemic Lupus International Collaborating Clinics (SLICC)/ACR Damage Index (SDI), which is used extensively worldwide for assessing organ damage. It analyses permanent alterations caused by lupus alone as well as associated illnesses or medical interventions. Patients with SLE need proper counseling about the disease and its manifestations, and assurance that, although it cannot be cured, the management of serious complications can be avoided, and thus the prognosis, is now much better. Patient should be advised to avoid the factors and situations that precipitate flares, adhere to immunization schedules, and attend regular monitoring of the disease and the treatment, and for review of management strategies. [6] SLE patients are usually treated with non-steroidal anti-inflammatory drugs (NSAIDs), anti-malarial agents, Glucocorticoids, and immunosuppressant, including cyclophosphamide, azathioprine, methotrexate, and mycophenolatemofetil. The choice of the drug is determined based on the severity of the disease and the function of the involved organ.

## **CASE PRESENTATION:**

### **Past History:**

Patient is a known case of joint pain and SLE for past 2 years in the same hospital. The patient has been on medications; Mycophenolatemofetil 500mg- TDS, Tablet prednisolone 10mg OD for SLE for past 8 months but experienced the flares of symptoms again.

### **Patient's Complaints:**

A 21-year-old female patient self-employed as a farmer from the region of Jaipur, India was admitted into female medicine ward of Jaipur national university. She was suffering from joint pain for past 2-3 years which is one of the chief symptoms for SLE. After 8 months from her prior treatment, on 2<sup>nd</sup> August, 2022, her symptoms flared and she started complaining of facial rashes, fatigue, insomnia, hair loss and pain in abdomen along with the joint pain. Facial rash were prominent in butterfly-like projections without any sign of pruritus.

### **Diagnostic assessment:**

Physical examination, patient's complaints and other investigations revealed different results through clinical outcomes.

### **Physical Examination:**

Vital signs: Head to foot assessment:

Temperature: 98.6°C

Pulse Rate: 84 bpm

Respiratory rate: 26 bpm

Conjunctiva: Pale

Nourishment: Undernourished

Body built: Thin

Skin: Rashes were present in the hands and lower extremities

**Biochemical investigation:**

The biochemical investigation showed Hb, TRBC, MCH, PCV was low, Neutrophils,

MPV found to be high and, Proteinuria was extremely high, HbA1c showed prediabetic conditions.

**Lipid Profile:** Triglyceride and VLDL was high. The blood reports showed high ESR levels where extremely high

**USG:** USG revealed mild splenomegaly.

**THERAPEUTIC INTERVENTION:**

Her treatment in the hospital lasted for 13 days. She has been prescribed Tab Hydroxychloroquine 200mg PO BD to manage musculoskeletal and mild constitutional features of lupus - fever, fatigue and malaise, Tab Mycophenolate mofetil 500mg BD to treat inflammation and lupus nephritis, Vitamin B complex BD and Tab cal+VitD3 OD as supplements, Tab Pantoprazole 40 mg OD to manage acid reflux due to ongoing medications, Cream mometasone OD to treat rashes, Photoban Aquagel Sunscreen BD as patient is a farmer and gets prolonged effect of UV rays on to the skin, Syp. Mucaine gel 2 tsp TDS for reducing heartburn, Zydip lotion (Beclomethasone) scalp to treat redness and dermatitis. Severe arthritis, pleuritis, pericarditis, autoimmune hemolytic anemia and thrombocytopenia, nephritis and a wide variety of neuropsychiatric symptoms frequently require treatment with corticosteroids, therefore, Tab. Methylprednisolone 16 mg BD is being prescribed. The patient was discharged after being admitted for 14 days with the following discharge medications and was asked for follow up after 5 days.

Table 1. Discharge medications

Medication	Dose	Frequency
Tab Hydroxychloroquine	200mg	BD
Tab Mycophenolate mofetil	500 mg	BD
Tab cefixime	200 mg	BD
Tab B complex	-	OD
Tab calcium +Vit d3	-	BD
Cream mometasone	-	-
Photoban Aquagel	-	-
Syp. Mucaine gel 2tsp	2tsp	TDS
Zudip lotion scalp	-	-
Tab Methylprednisolone	16 mg	BD

**NURSING MANAGEMENT:**

Nursing care was given to the patient with utmost attention to maintain health status and avoid further complications. Patient was:

- Provided a comfortable position to the patient.
- Monitored vital signs of the body.
- Administered all the prescribed medications.
- Monitored intake and output.

**DISCUSSION:**

The rate of incidence of SLE in India ranges from **14 to 60 per 100,000** individuals. [7] SLE may exist with other organ specific autoimmune diseases such as hemolytic anemia, immune thrombocytopenic purpura and arthritis which were evident in this case. The concordance of the disease in identical twins is approximately 25–50% and that in dizygotic twins is around 5%. Clinicians use a broad range of medications to treat lupus, including glucocorticoids; antimalarial agents; non-steroidal anti-inflammatory drugs

(NSAIDs), immunosuppressive agents, and B cell–targeting biologics. Hydroxychloroquine is the cornerstone of SLE treatment. Glucocorticoids are first-line agents for most SLE manifestations, with dosage and treatment duration based on clinical experience and consensus. [8]The patient was a 21year old admitted in the JNU HOSPITAL with chief complaints of skin rash with butterfly projections, pain in joints and abdomen. Patient received care from a team of healthcare professionals, including physicians, clinical pharmacist and nursing staff. Patient is advised to take medications on time as prescribed and a follow up after 6 days was advised. [9]

#### **CONCLUSION:**

This case was taken care with utmost precaution as it was one of the most important cases for JNU hospital. Systemic Lupus Erythematosus is an autoimmune condition affecting the different body parts. Systemic Lupus Erythematosus involves symptoms ranging mostly all the body parts. Symptoms can be avoided by avoiding the sun exposure, using sunscreens for better UV protection, getting adequate sleep and taking proper medications.

#### **CONSENT FOR PUBLICATION:**

Written informed consent was obtained from the patient for the publication of this case report.

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