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A Case Report on Systemic Lupus Erythematosus in a 21 Year Old Indian Female

Vidhi Shukla [a*], Dinesh Kumar Upadhyay [a++], Grishma Krishnan [a], Yoshita Gupta [a] and Sonam Pandey [b#]

[a] School of Pharmaceutical Sciences, Jaipur National University, Jagatpura, Jaipur, Rajasthan, India.
[b] Institute for Medical Science and Research Centre, Jaipur National University, Jagatpura, Jaipur, Rajasthan, India.

Authors' contributions

This work was carried out in collaboration among all authors. Authors DKU, VS, GK and YG conceived the study and were involved in patient therapy monitoring and analysis. Authors GK and YG performed the literature search. Authors DKU and VS drafted the manuscript. Authors DKU and SP reviewed the manuscript and did the necessary changes. All authors read and approved the final manuscript.

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Case Study

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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 experiencing flare-ups followed by protracted remissions.

[++]Professor;
[#]Casuality Medical Officer;
**Corresponding author: E-mail: vid.shuk99@gmail.com;*

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 have a timely 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.

Keywords: Systemic lupus erythematosus; NSAIDs; immunosuppressants; corticosteroids.

1. 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” [2]. Although the patho-etiology of SLE is unknown, 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 failures 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 Centres 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 [4]. “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, and 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 extensively used worldwide for assessing organ damage. It analyses permanent alterations caused by lupus alone as well as associated illnesses or medical interventions” [5]. “Patients with SLE need proper counselling 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. The patient should be advised to avoid the factors and situations that precipitate flares, adhere to immunisation schedules, and attend regular monitoring of the disease and the treatment, as well as a review of management strategies” [6]. SLE patients are usually treated with non-steroidal anti-inflammatory drugs (NSAIDs), anti-malarial agents, glucocorticoids, and immunosuppressants, including cyclophosphamide, azathioprine, methotrexate, and mycophenolate mofetil. The choice of the drug is determined based on the severity of the disease and the function of the involved organ.

2. CASE PRESENTATION

2.1 Past History

Patient has had a known case of joint pain and SLE for the past 2 years in the same hospital. The patient has been on medications (Mycophenolate Mofetil 500mg- TDS and Tablet prednisolone 10 mg OD for SLE) for the past 8 months but has experienced flare-ups of symptoms again.

2.2 Patient's Complaints

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

2.3 Diagnostic Assessment

Physical examination, the patient's complaints, and other investigations revealed different results in terms of clinical outcomes.

2.4 Physical Examination

2.4.1 Vital signs

Temperature: 98.6°C
Pulse rate: 84 bpm
Respiratory rate: 26 bpm
Conjunctiva: Pale
Nourishment: Undernourished
Body type: thin
Skin: butterfly-like rashes are present on the face. Rashes were present in the hands and lower extremities.

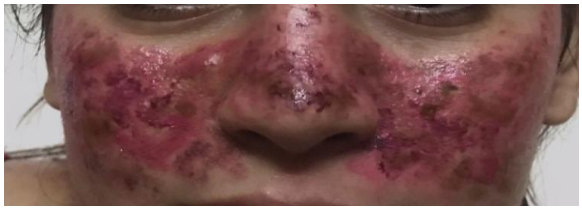

Fig. 1. Butterfly-like erythematous projections seen on the face of the patient

2.5 Haematological Investigation

The blood investigation showed Hb, TRBC, MCH, and PCV were low. Neutrophils,

MPV was found to be high.

Urinalysis: Urinalysis revealed extremely high levels of protein.
HbA1c: HbA1c showed prediabetic conditions.
Lipid Profile: Triglycerides and VLDL were high. The blood reports showed high ESR levels that were extremely high.
USG: USG revealed mild splenomegaly.
Antinuclear-Antibody Test: Positive (HEp2 immunofluorescence pattern is homogeneous)
Anti-DSDNA- Detected

3. 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 ODas supplements, Tab Pantoprazole 40 mg OD to manage acid reflux due to ongoing medications, and Cream Mometasone OD to treat rashes, Photoban Aquagel Sunscreen BD as patient as a farmer and gets the prolonged effect of UV rays on the skin, Syp. Mucaine gel, 2 tsp TDS, for reducing heartburn; Zydip lotion (Beclomethasone) for the scalp to treat redness and dermatitis. Severe arthritis, pleuritis, pericarditis, autoimmune hemolytic anaemia 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 to follow up after 5 days.

4. NURSING MANAGEMENT

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

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

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	-	-
Photobanaquagel	-	-
Syp. Mucaine gel 2tsp	2 tsp	TDS
Zudip lotion scalp	-	-
Tab Methylprednisolone	16 mg	BD

5. DISCUSSION

The rate of incidence of SLE in India ranges from 14 to 60 cases per 100,000 individuals [7]. SLE is diagnosed based on the existence of signs and symptoms as well as examinations. It is caused by the immune system attacking the body's own tissue, causing inflammation of the joints, skin, lungs, kidneys, nervous system, and other organs [8]. “SLE may exist with other organ-specific autoimmune diseases such as hemolytic anaemia, 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” [9]. “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” [10]. The patient was a 21-year-old male admitted to the JNU Hospital with chief complaints of a skin rash with butterfly projections and pain in the joints and abdomen. The patient received care from a team of healthcare professionals, including physicians, clinical pharmacists, and nursing staff. The patient is advised to take medications on time as prescribed, and a follow-up after 6 days is advised [11].

6. CONCLUSION

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

CONSENT

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

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Kiriakidou M, Ching CL. Systemic lupus erythematosus. Ann Intern Med. 2020;172(11):ITC81–96. Available:http://dx.doi.org/10.7326/aitc202006020
2. Fortuna G, Brennan MT. Systemic lupus erythematosus: Epidemiology, pathophysiology, manifestations, and management. Dent Clin North Am. 2013;57(4):631–55. DOI: 10.1016/j.cden.2013.06.003
3. Wells BG, DiPiro JT, Schwinghammer TL, Di Piro CV. Pharmacotherapy handbook, Tenth Edition. 10th ed. Columbus, OH, USA: McGraw-Hill Education; 2017.
4. Luo F, Ye Q, Shen J. Systemic lupus erythematosus with trisomy X: A case report and review of the literature. Journal of Medical Case Reports. 2022;16(1):281. Available:https://doi.org/10.1186/s13256-022-03478-5
5. Nifras M, Hameed S, Manotharan S, De Alwis T, Iqbal M. Systemic lupus erythematosus: A case report; 2017. Available:https://doi.org/10.13140/RG.2.2.10551.83364

6. Tsokos GC. Systemic lupus erythematosus. N Engl J Med. 2011;365 (22):2110–21.
Available:https://pubmed.ncbi.nlm.nih.gov/22129255/
DOI: 10.1056/NEJMra1100359
Access on 2022 Oct 27
7. Malaviya AN, Singh RR, Singh YN, Kapoor SK, Kumar A. Prevalence of systemic lupus erythematosus in India. Lupus. 1993; 2(2):115–8.
Available:https://pubmed.ncbi.nlm.nih.gov/8330032/
DOI: 10.1177/096120339300200209
Access on 2022 Oct 27
8. Case report on systemic lupus erythematosus. Indian Journal of Forensic Medicine and Toxicology; 2020.
Available:https://doi.org/10.37506/ijfmt.v14i4.12650
9. Schrezenmeier E, Dörner T. Mechanisms of action of hydroxychloroquine and chloroquine: Implications for rheumatology. Nat Rev Rheumatol. 2020;16(3):155-166.
DOI: 10.1038/s41584-020-0372-x
Epub 2020 Feb 7
10. Mok CC, Lau CS. Pathogenesis of systemic lupus erythematosus. J Clin Pathol. 2003;56(7):481–90.
Available:https://jcp.bmj.com/content/jclinpath/56/7/481.full.pdf
DOI: 10.1136/jcp.56.7.481
11. Aringer M, Schneider M. Systemic lupus erythematosus. Dtsch Med Wochenschr; 2016;141(8):537–43.
Available:https://pubmed.ncbi.nlm.nih.gov/27022764
DOI: 10.1007/s00105-021-04794-5
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