



Systemic lupus erythematosus: an unusual presentation of stroke - a case report from Azal hospital, Sana'a, Yemen

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ABSTRACT

Systemic lupus erythematosus (SLE) is a chronic autoimmune disorder characterized by various clinical manifestations and potential multi-organ involvement. It predominantly affects women, with peak incidence during middle age. **Case report:** This case report describes a 36-year-old female patient who presented with right-sided body weakness, fever, and headache but maintained normal speech. The patient, with a known history of SLE, was diagnosed with an ischemic stroke. Following appropriate fluid resuscitation and medical management, the patient improved. Notably, the patient had a previous ischemic stroke four years ago while on warfarin but without antiplatelet therapy. **Conclusion:** Our findings suggest that stroke may be an initial presentation of SLE and that warfarin alone may not adequately protect against stroke in this patient population.

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1. Introduction:

Systemic lupus erythematosus (SLE) is a chronic autoimmune condition characterized by a wide range of clinical manifestations and a course marked by periods of exacerbation and remission (Dina Zucchi, 2023). SLE arises from

dysregulated immune activity, leading to clinical symptoms. It exhibits a higher prevalence among African American women and women from other ethnic minority groups (Marianthi Kiriakidou, 2020). The condition is characterized by the production of autoantibodies targeting endogenous antigens, with diagnosis relying on

both clinical assessments and laboratory tests. Management strategies include sun protection, nutritional support, smoking cessation, and regular exercise. Pharmacological interventions include a range of medications, such as steroidal and nonsteroidal anti-inflammatory drugs, immunosuppressants, and biologics (Giulio Fortuna, 2013). Fatigue, a common complaint among SLE patients, poses challenges in treatment (Philippe Mertz, 2020), impacting the quality of life and psychological well-being of patients and their relatives (Furong Zeng, 2018). SLE can manifest in rare clinical presentations, including lupus hepatitis, interstitial lung disease, myocarditis, pulmonary hypertension, lupus retinopathy, aseptic meningitis, and chorea (Chiara Tani, 2022). These findings underscore the importance of increased awareness in diagnosing SLE.

2. Case presentation

A 36-year-old female presented to the emergency department of our hospital complaining of sudden onset right-sided body weakness, fever, and headache, with normal speech. Physical examination revealed a pulse rate of 81 beats per minute, a temperature of 39 °C, and a blood pressure of 120/80 mmHg. Full blood count (FBC) showed normal white blood cell count (WBC) of $8.11 \times 10^9/L$ with neutrophilia of 77.9%. Hemoglobin (Hb) was 10.2 g/dL, but platelets were normal. C-reactive protein (CRP) was elevated at 25 mg/L. Creatinine was 0.5 mg/dL, and random blood sugar was 95 mg/dL. A brain computed tomography (CT) scan did not show evidence of hemorrhage. The patient was diagnosed with ischemic stroke. Initial management included aspirin 75 mg once daily, bisoprolol 5 mg once daily, intravenous cefepime 1 gram twice daily, paracetamol 1 g twice daily, dextrose and normal saline 500 cc three times daily, pantoprazole 40 mg twice daily, and ondansetron 4 mg twice daily. After two days, the patient's clinical condition improved significantly, and CRP decreased to 0.5 mg/L.

The patient had a known history of systemic lupus erythematosus (SLE), diagnosed clinically and by laboratory tests. Her first presentation four years ago was an ischemic stroke, despite being on warfarin 1.5 mg once daily but without antiplatelet therapy. She was also taking prednisolone 20 mg once daily, hydroxychloroquine 200 mg once daily, and candesartan 16 mg once daily. The patient was discharged after five days, continuing aspirin and bisoprolol in addition to her previous medications, prednisolone and hydroxychloroquine.

3. Discussion

Because SLE primarily affects the rheumatological system, it is unsurprising that arthritis is the most prevalent presentation (Alessandro Marone, 2021; Naglaa Afifi, 2021), and it is even more common in children (Laniyati Hamijoyo, 2022). However, in our case, ischemic stroke was the main clinical presentation, which is a rare presentation in SLE (Xiaodong Chen, 2018). Stroke is a medical emergency that prompted us to use aspirin (Hui-Sheng Chen, 2024) after exclusion of hemorrhage (Christopher A Stack, 2017) and an empirically strong antibiotic, cefepime, a broad-spectrum fourth-generation cephalosporin, to treat suspected bacterial infection because of fever and neutrophilia. Paracetamol was added to address fever and pain. Since the patient is not diabetic, normal saline fluid was chosen. Pantoprazole and ondansetron were included for their anti-ulcer and anti-emetic properties. Further examination of the patient showed oral ulcer and persistent fatigability, which are also symptoms of SLE (A M Ahmmad, 2022). Against expectations, there was no cutaneous involvement in our patient, which are common features of SLE (Courtney Stull, 2023). To maintain a good prognosis after discharge, the patient is kept on aspirin and bisoprolol to prevent further strokes (William D. Tucker, 2024), in addition to her previous medications prednisolone 20 mg and hydroxychloroquine for long-term patient survival, prevention of flares

and organ damage, and optimization of health-related quality of life (Laura Durcan, 2019; Antonis Fanouriakis, 2021). Of course the patient is asked to visit our clinic once a month for follow-up.

4. Conclusion

Systemic lupus erythematosus (SLE) is a complex autoimmune disease with potentially severe and life-threatening manifestations, including stroke. Early diagnosis and prompt, aggressive management are crucial for improving patient outcomes. Given the various clinical presentations of SLE, healthcare providers should maintain a high index of suspicion, especially in young women. Our case highlights the importance of considering SLE as a potential etiology in patients presenting with stroke, even in the presence of anticoagulation with warfarin.

Human Ethics

Consent was obtained from our patient in this study.

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