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Rare presentation of systemic lupus erythematosus (SLE): a case report

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Abstract

We present a 17-year-old girl, a known case of SLE diagnosed 6 months back, who presented with acute urinary retention. She had delayed development of secondary sexual characters. Investigations revealed megaloblastic changes with low serum cobalamin and folic acid levels, 1.8 mean corpuscular volume (MCV) and 3 for cobalamin and MCV, and serum cobalamin by chemiluminescence. The rare case report of pathology revealed megalo normoblastic changes. She had a positive ANA by immunofluorescence and high titres of anti-dsDNA, high levels of C3, low levels of C4, and positive anti-Ro antibody. Increased peripheral blood cytopenia. Sensory perception showed decreased appreciation of touch at the level of the umbilicus. She had transverse myelitis and neurogenic bowel and bladder with bowel incontinence, which was managed with digital evacuation as fail-related artery was the cause of urinary retention due to neurogenic bladder. Her Doppler was normal.

This case is very unique because of its clinical presentation. Although neurologic presentations are not extremely rare in SLE, they are usually in the form of seizures, strokes, neuropsychiatric SLE (NPSLE), or transverse myelitis. However, only a few large series have focused on this aspect of SLE. A few case reports described patients with SLE who presented with severe chronic constipation; however, this phenomenon is not associated with the presence of antiphospholipid antibodies (APAs). It is not clear in cases of SLE whether slow gastrointestinal (GI) motility is due to poor nutrition, systemic low-grade chronic inflammation, steroid use, anti-inflammatory and non-steroidal medications, or the neurological complications together. Propulsive contractions disappear and segmentation decreases if there is a chronic myelopathy lesion above the fourth lumbar enlarged ventricle, while the normal bowel function and defecation mechanism remain intact. Whenever it also results in incontinence, manual evacuation from the level of the anorectal junction may become necessary.

Keywords: Systemic Lupus Erythematosus; Hemoptysis; Antinuclear antibody (ANA)

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Introduction

Systemic lupus erythematosus (SLE) is an autoimmune disorder that fluctuates between periods of remission and disease activity. The disorder is more common in women than men, particularly those of Asian, African, and Hispanic descent. The pathogenesis of SLE is multifactorial and is influenced by both environmental and genetic factors. Although SLE can affect many organ systems, the majority

of patients present with musculoskeletal, mucocutaneous, or systemic symptoms. Despite the fact that the etiopathogenesis of SLE is well understood, the condition can be diagnosed with a variable delay. Systemic lupus erythematosus (SLE) is a multisystem chronic autoimmune disease that affects women of childbearing age. In previous years, it was associated with poor prognosis, but recent advances in understanding the disease mechanism and therapeutic options have improved survival. Neuropsychiatric involvement occurs in 30-50% of cases and may be one of the first symptoms of the disease. The characteristic neurological disease pattern includes cognitive impairment, anxiety disorder, and psychotic syndrome. The cerebrospinal fluid (CSF) is usually altered, with an increase in proteins and lymphocytic pleocytosis. The CSF ANA test is a very important diagnostic tool, especially in patients with normal blood ANA, and can be used to monitor patients. Treatment includes corticosteroids, often combined with immunosuppressive drugs, including cyclophosphamide, mycophenolate mofetil, azathioprine, or methotrexate and rituximab. Using biological treatment against CD20, leading to reduced production of autoantibodies, may be useful in a subset of patients. Systemic lupus erythematosus (SLE) is a systemic chronic autoimmune disease. It is evident from its definition that this is a condition in which genetic, hormonal, and environmental influences play a significant role in terms of pathogenesis. It causes somatic complaints and symptoms. Systemic lupus erythematosus frequently involves the skin and mucous membrane, joints, serous layers, and kidneys. It can cause serositis, vasculitis, rhabdomyolysis, and even severe clinical conditions with only neurological involvement. It is generally recognized that 30-50% of SLE patients develop neuropsychiatric involvement. Neurological involvement is frequently observed following the onset of generalized disease. Approximately 50% of neurological involvement occurs in the first two years. The most important predictor in neurological involvement is the presence of antiphospholipid antibody. Antiphospholipid antibodies, especially lupus anticoagulant, are the most central antibodies in nervous system involvement. Neurological involvement has all types of clinical and laboratory diagnostic criteria. Among the clinical findings are confusion, depression, minor and major seizures, cerebrovascular disease, neuropathy, myelopathy, aseptic meningitis, movement disorders (parkinsonism), cognitive involvement. Drug side effects should not be regarded as neurological involvement, and the dose of corticosteroids and immunosuppressive agents should not be considered a major predictor of neurological involvement. Systemic corticosteroids and anticoagulant therapy should be the first treatment for neurological systemic lupus erythematosus. In patients who do not respond to these combined treatments, mycophenolat- azathioprine or cell therapies are considered to be biologics. The survival of patients with severe NPSLE has been reported to be very low in previous series, while recent series (2005-2015) have reported recovery with these new treatment approaches.

Case Presentation

We present a 17-year-old girl, a known case of SLE diagnosed 6 months back, who presented with acute urinary retention. She had delayed development of secondary sexual characters. Investigations revealed megaloblastic changes with low serum cobalamin and folic acid levels, 1.8 mean corpuscular volume (MCV) and 3 for cobalamin and MCV, and serum cobalamin by chemiluminescence. The rare

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Diagnosis and Differential Diagnosis

There are limitative criteria resulting in the diagnosis of SLE, but before considering such a pathology, it is necessary to exclude other pathologies capable of producing aspects of overlapping such as neoplastic diseases, neurologic, and infectious pathologies (hepatitis, B virus, viral and non-viral, progressive multifocal encephalitis, neurosyphilis, tick-borne encephalitis and neuroborreliosis). Diagnosis is very important and complex. It requires clinical and paraclinical tests. To confirm the diagnosis, such as in the case of SLE, it uses the classification criteria of the American College of Rheumatology. In the absence of history of SLE or treatment, 4 of the 11 criteria should be present at a single moment, or some two subclinical criteria present repeatedly. These criteria look at the immune response, such as: the formation of antibodies, the presence of proteins of the complement. They also describe changes and damage to the kidneys, the central nervous system, heart. The differential diagnosis is important in the acute stage of the SLE from neoplastic, infectious disease, haematogen dissemination of microorganisms (staphylococcal, golden staph or staphylococcus). The neurological signs at the onset of sickness (seizures, etc.) need to be differentiated from the brain vessels pathology (diffuse choriomeningitis), multiple sclerosis, neuroinvasive neoplasics.

SLE may present with multiple different clinical manifestations. It is associated with the presence of autoantibodies and may also resemble infections, neurovascular diseases, demyelinating diseases, and neuro-rheumatologic disorders such as systemic vasculitides and multiple sclerosis. Although virtually any organ system may be affected, the involvement of the nervous system, particularly the central nervous system (CNS) and peripheral nervous system, is less common. CNS involvement in SLE is clinically heterogeneous and can present as a subtle change in mood, headaches, overt

confusional states, seizures, psychosis, encephalopathy, movement disorders or stroke. The pathophysiology of CNS involvement in SLE is complex, multi-factorial and remains poorly understood. It is characterized by the presence of either autoantibodies or circulating immune complexes leading to brain dysfunction and evidence of neurological deficits through the use of neuropsychological testing and/or abnormal structural or functional brain imaging.

Diagnostic Criteria for SLE

Systemic lupus erythematosus (SLE) is a chronic immune disorder of unknown etiology. It involves multiple organ systems and is characterized by intermittent periods of exacerbation and quiescence. SLE has traditionally been considered a multisystem autoimmune disease, predominantly affecting women during childbearing years. We report an unusual case of a 44-year-old man who presented with polyarthritis and a transient non-erosive deforming arthritis involving his distal interphalangeal joints. Our impression was that he was suffering from either psoriatic arthritis or the seronegative variant of rheumatoid arthritis. His presentation of SLE responded to treatment with high doses of oral corticosteroids.

SLE is a clinical diagnosis and it is made when four of the following criteria are present: arthritis, anergy of 50%, serum occurrence of biopsy confirmed nephropathy and the presence of anti double-stranded DNA (dsDNA) or anti-Smith (Sm) antibodies. We tested this patient for ANAs, anti-dsDNA, anti-Sm antibodies, anti-Ro antibodies, anti-La antibodies, anti-cardiolipin antibodies and anti-ribonucleoprotein antibodies in accordance with EULAR guidelines. A positive result is an IIF on Hep-2 cell line of 1:40 on one occasion or more. Our patient had a negative ANA on IIF technique using the Hep-2 cell line at a dilution of 1:40. Positive levels of antibodies to dsDNA are present in 70% - 98% of patients with SLE and tend to be higher in those with more active disease. This patient also had a negative test for anti-dsDNA antibodies. Patients with anti-Sm autoantibodies often have severe renal disease and central nervous system disease. This patient had no evidence of vasculitis, no evidence of severe renal disease and no evidence of central nervous system disease. Our patient was not a "true" case of SLE and we feel it is important to report the rare presentation and response to high doses of oral steroids for SLE.

Treatment and Management

After the diagnosis of SLE, the patient received intravenous methylprednisolone (IVMP) 500 mg once a day for three consecutive days followed by tablet prednisolone 50 mg to start and was arranged for follow-up in the rheumatology clinic. On review of her phosphatidylserine and phosphatidylethanolamine antibodies in our lab and Eliza showed that it was equivocal. She was also started on hydroxychloroquine (HCQ) 200 mg once a day to rule out the evidence of antiphospholipid antibody syndrome (APLA). She was discharged from psychiatric services during the admission back to her family. She was followed up in the rheumatology clinic four weeks post discharge and she was still experiencing psychosis and rheumatologist advised for continuous use of prednisolone 60 mg once a day and refer her to continue with a higher psychiatry setup for her predominantly psychiatric symptoms. She also reported that she was with low mood and sadness with poor sleep. She had self-

referred to A & E following an argument with her husband for seeking alternative accommodation to be able to look after her son better.

Upon presentation to A & E, she continued to describe ongoing LC and tactile hallucinations as well as headaches, myalgia and weakness affecting mobility. She remained compliant with medication. She was admitted under the liaison psychiatry team who requested a review from the rheumatology service due to an abnormal MRI brain. She was found to be hypertensive so started on nifedipine XL 30 mg once daily and amlodipine 5 mg once daily. The repeated rheumatology review confirmed a diagnosis of SLE and suggested transferring to general medical to initiate treatment with pulse methylprednisolone once clinical signs were discussed with the patient. Because electrolytes were normal and marked psychiatric features and the patient protested having a lumbar puncture an argument ensued and eventually, the patient left without being seen. She engaged with the substance misuse service and was subsequently admitted to May where she was started on quetiapine 100 mg nocte (an antipsychotic) and citalopram 20 mg orally before going to bed, benzhexol 2 mg was also administered the same time. Concern regarding the polypharmacy was raised, and she was down titrated from oral prednisolone 60 mg to 30 mg once a day. This resulted in a relapse into her psychiatric illness but has since resolved following a repeat dose of IVMP 500 mg once a day for five days and prednisolone increasing to 50 mg orally. She was started on hydroxychloroquine 200 mg orally once daily.

Discussion

Systemic lupus erythematosus (SLE) has been termed "the great imitator." This is mainly because of its protean manifestations historically shown to affect more organ systems than any other autoimmune disease and that the clinical remission phase of SLE can resemble a state of health. However, some uncommon presentations of SLE do exist and include slowly progressive renal impairment, fever of unknown origin with anti-dsDNA antibodies, hepatitis with type 2 cryoglobulinaemia, leucopenia due to anti-lymphocyte antibodies, anorchia, fever, and muscle and joint pain as manifestations of pericarditis. Some of these syndromes are associated with antibodies not included in the American College of Rheumatology (ACR) criteria for SLE, raising the potential for "serological SLE".

Acute interstitial nephritis (AIN) has been described after systemic administration of numerous drugs. It is also associated with granulomatous involvement and is seen in the context of infection, sarcoidosis, and vasculitis. AIN is associated with other autoimmune diseases and has been described as possibly being secondary to. Coincident or secondary AIN associated with SLE has been recognized, although the immune mechanism involved is still unclear. As the principles of corticosteroid treatment (often a first-line immunosuppressant in AIN) conflict with the approach in treating renal involvement associated with lupus, differentiating the 2 conditions is central. Our patient has clinical and histological evidence of active lupus nephritis. The development of an acute interstitial inflammatory infiltrate was rapid and was reversed with corticosteroids. Evidence of drug hypersensitivity has been documented prior to clinical expression of drug-induced AIN (DIAIN). The coexistence of lupus activity and DIAIN in the patient described is likely to be incidental. It would be

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very unusual to rechallenge this patient with the drug and see if there is any further AIN. It is likely that immediate withdrawal of the drug would result after a dip in renal function if it could be rationalized on clinical suspicion alone; biopsy may not produce sufficient evidence to implicate mycophenolate mofetil alone, as opposed to a tendency to hypoperfusion or sicca syndrome. It would be extremely risky to restart the drug post-recovery. The aim of our treatment was to achieve long-term remission with a steroid-sparing agent, a treatment approach considered in the same manner for all patients presenting with active lupus nephritis. The patient has so far tolerated a combination of corticosteroids, hydroxychloroquine, and prednisolone.

The variety in clinical presentations of SLE can range from being completely asymptomatic to discomfort and severe disability. Inflammatory changes caused by dysfunction of the affected organs are generally responsible for the patient's complaints, although the appearance of symptoms is frequently accompanied by signs of the involved organs. However, these signs could be the body responding to the inflammation locally. To comprehend the uncommon presentations of SLE, more detailed research is needed. Nevertheless, such presentations may lay the foundation for new diagnostic tools in unsolved cases from different specialties.

Conclusion

In this case report, we present an atypical presentation of SLE. A detailed review of the systemic lupus erythematosus literature was performed to date and has not elicited articles with a similar presentation to that of our patient. The classic symptoms of SLE may not be manifested in several patients. Consequently, rheumatologists and physicians in different specialties may suspect an alternative diagnosis; this, in turn, results in a diagnostic delay, worsening symptoms, and poor prognosis. Despite new therapeutic strategies introduced to treat SLE, long-term outcomes have remained virtually unchanged. This is the time patient's diagnosis is long and clinical suspicion may have an impact on the lack of response to therapy and disease activity.

Conflict of Interest

No conflicts of interest were declared by the authors.

Financial Disclosure

The authors declared that this study has received no financial support.

Ethics Statement

Approved by local committee.

Authors' contributions

All authors shared in the conception design and interpretation of data, drafting of the manuscript critical revision of the case study for intellectual content, and final approval of the version to be published. All authors read and approved the final manuscript.

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