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Case Report

Neuropsychiatric Manifestation of Systemic Lupus Erythematosus in an Immediate Postpartum Patient: A Case Report from Northern Tanzania

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Abstract

Several neuropsychiatric manifestations have been documented among patients with systemic lupus erythematosus (SLE). However, considerable challenges exist in diagnosing and management of neuropsychiatric symptoms especially in resource constrained settings. More literature in this setting is needed to further inform clinicians of their existence, diagnosis and challenges faced. We report a case of a 30 years old female who was referred to us as a case of anemia three days post caesarean section with evolving symptomatology including severe endometritis and neuropsychiatric symptoms. Delayed diagnosis of SLE led to a more prolonged hospital stay. However, multidisciplinary team approach saved the day by reaching the correct diagnosis for the underlying complex symptoms resulting into appropriate management.

Keywords: *Neuropsychiatric, Systemic Lupus Erythematosus, Multi-Disciplinary Team*

Introduction

Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease which has several different multi-systemic clinical presentations. [1,2]. Neuropsychiatric manifestation is one among the commonest challenging manifestations in SLE and is considered a fatal complication [3,4]. More than 50 people in 100,000 suffer from SLE whereby approximately more than 56% of these have neuropsychiatry manifestation. The symptoms are unspecific and pathophysiology is complex hence early diagnosis and management is significantly intricated [5,6]. Given the limited documentation in the literature stemming from resource constrained setting to account for the challenges and experience in management of SLE, this narrative reported herein, highlights the importance of multi-disciplinary interaction and coordination in diagnosis and management of serious complications associated with SLE.

Case Study

This is a case of 30 years old female who was referred to our facility three days post cesarean section due to malpresentation with complains of dizziness and general body malaise for three days followed by sudden onset of shortness of breath and blurry vision for one day. On examination she was moderately pale, and other systems were clinically unremarkable.

Full blood picture (FBP) revealed low hemoglobin of 10.3 after five blood transfusions from the peripheral hospital. Features of cardiomegaly were found on Chest X ray (CXR) and Echocardiogram (ECHO). She was admitted at our gynecology ward with a working diagnosis of iron deficiency anemia based on FBP results and postpartum cardiomyopathy based on CXR and ECHO. Physicians were consulted and managed the cardiomyopathy.

During her stay in the ward, she developed spikes of fevers and foul smelling per-vaginal discharge. On examination she had a distended tender abdomen. Bulky uterus with free fluid in the endometrial cavity and minimal fluid in the peritoneal cavity was seen in abdominal pelvic ultrasound.

Blunt curettage was done and products of conceptions were evacuated approximately 200cc of fresh blood mixed with clots. Tissues were sent for histopathology which showed endometritis. Five days later Subtotal hysterectomy (STAH) was done due to complications of severe endometritis.

Two days post-STAH, the patient started to present with on and off confusion and selective mutism. On examination she was febrile, confused, low mood, poor appetite, poor sleep and loss of interest with hyper pigmented patches on sun-exposed areas. She was initially treated as a case of sepsis and vitamin B12 deficiency by the gynecological team but she was not improving much.

Psychiatry team was consulted and had a diagnosis of Depressive episode with a differential of delirium. Patient was kept on olanzapine and mirtazapine. Dermatology were also consulted for the skin lesions and the biopsy taken showed features of SLE (See figure 1). Laboratory investigations were ordered and revealed high ESR and positive Anti-Double Stranded DNA, others were normal (See table 1). Brain CT scan was also normal. She was then initiated on hydroxychloroquine and prednisolone while continuing with olanzapine and mirtazapine. Over a period of two weeks, the patient's condition progressively improved and she was then discharged for follow up in outpatient clinic.

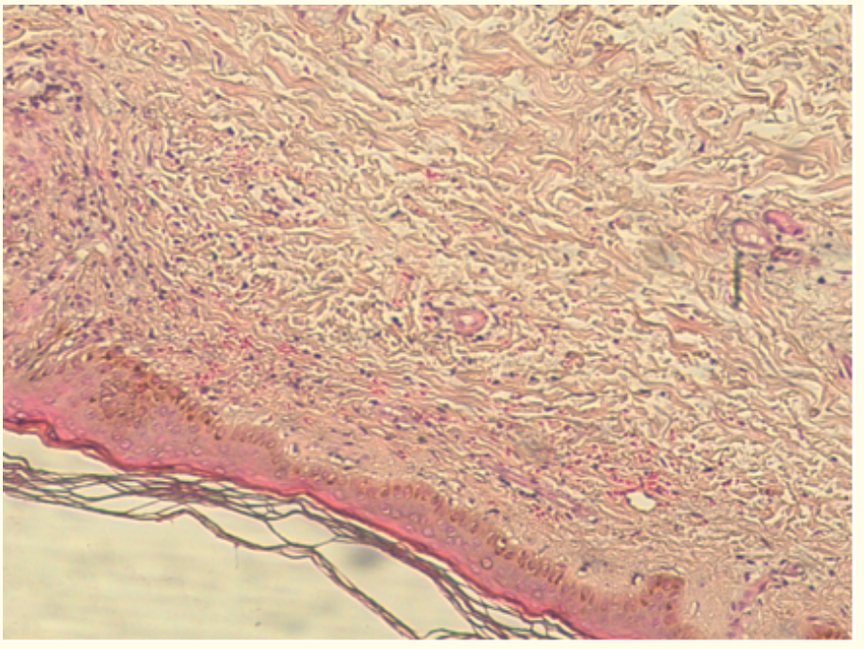

Figure 1*: Showing normal epidermis, marked RBC extravation with some superficial dermal edema. Perivascular infiltrates composed of lymphocytes and few plasma cells.*

Hb (11.5 - 16.5 g/dl)	ESR (0 - 29 mm/lh)	K (3.5 - 5.1 mmol/L)	Na (136 - 145 mmol/l)	Creatinine (44 - 80µmol/L)	AST (2 -32 U/L)	ALT (2 -33 U/L)	Platelet (150 -500/L)	VIT B12 Pg/mL	Protein (66- 87 g/l)	Albumin (35- 52 g/l)	VDRL	ADNA >30 IU/ml
10.3	106	3.59	134	38	22	12	316	845	52	20	NR	204: positive

Table1*: Laboratory investigations done.*

Hb: Hemoglobin, ESR: Erythrocyte Sedimentation Rate, K: Potassium, Na: Sodium, AST: Aspartate Aminotransferase, ALT: Alanine Aminotransferase, VDRL: Venereal Disease Research Laboratory, ADNA: Anti-Double Stranded, VIT B12: Vitamin b12, NR: None Reactive.

Final diagnoses were 1. Subtotal hysterectomy secondary to severe endometritis 2. Systemic Lupus erythematosus with neuropsychiatric manifestations 3. Post-partum cardiomyopathy.

This case was initially taken as a simple case of anemia but went on to become more puzzling and complex with a long hospital stay of 29 days.

Discussion

Neuropsychiatric lupus (NPSLE) refers to the neurological and psychiatric disorders complicated with SLE [1,2]. More than half of the patients with SLE develop neuropsychiatry symptoms which requires early intervention to prevent further complications [3,4].

Neuropsychiatric manifestations of SLE includes headache 28.3%, mood disorder (20.7%), cognitive dysfunction 19.7% and seizures 9.9%. Others include rare condition of Obsessive compulsive disorder (OCD) and catatonia [1,4-6]. 40% of NPSLE symptoms appear in the first year of diagnosis [5]. In this case our patient developed depression as one of the complications of NPSLE.

Pathophysiology of NPSLE is challenging. However, several pathogenesis depend on various factors such as environmental, genetic, hormonal factors and infection. Underlying mechanism were identified such as antibody mediated neurotoxicity, vasculopathy due to anti phospholipid antibodies and cytokine induced [4,5,7,8]. Auto antibodies targets mainly neuronal membranes proteins and has potentially altered behaviour,cognition and memory.

Due to the complexity of the pathophysiology and involvement of multiple body systems, Multi-disciplinary team (MDT) approach is required for proper diagnosis and management of the patient. It has been proven that the involvement of MDT by providing inputs to confirm the diagnosis and manage the patients improves clinical outcomes [9,10].

As far as MDT is concerned, several investigations are also required to reach the diagnosis such as autoantibody analysis whereby a study done in Iran showed ANA and Anti double stranded DNA were positive (78%) [1]. Most of the Radiological imaging such as CT scan and MRI of the brain have revealed no abnormality (> 59%) [1,4].

Our patient had positive anti double stranded DNA and the normal brain CT scan as seen in other studies. The diagnosis was established and was managed following multiple consultations to other departments depending on the symptoms.

However, it was challenging in reaching the diagnosis of SLE early but multi-disciplinary team involvement in management of the patient due to the complexity of the symptoms led to reaching the conclusive diagnosis and appropriate treatment in the end. This delay, of course, prolonged the stay of the patient in the ward.

Conclusion

Neuropsychiatric manifestation of systemic lupus erythematosus is a fatal complication which in a resource constrained setting may result in delayed diagnosis and management. Our patient presented with complex evolving symptomatology compounded by postpartum endometritis. However, multi-disciplinary team approach proved necessary in reaching correct diagnosis and treatment that resulted in improved clinical outcome despite the case complexity.

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Conflict of Interest Statement

None declared.

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Ethical Approval

No approval required.

Consent

Written and signed consent was obtained from the patient to be used for further academic platforms.

Guarantor

All authors are the guarantor of this paper as F.K, N.B, E.Z, D.S, E.N, D.M, N.G.C, A.E.M, B.M, B.C.S, J.B, A.A managed the patient and collected all clinical information. M.M, L.K took and analyzed the biopsy. F.K drafted the manuscript and B.C.S reviewed its content. All authors read, edited and approved the final manuscript.

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