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Case Report

Psychiatry/Mental Health Section

Acute Confusional State in a Neuropsychiatric Systemic Lupus Erythematosus Patient: A Case Report

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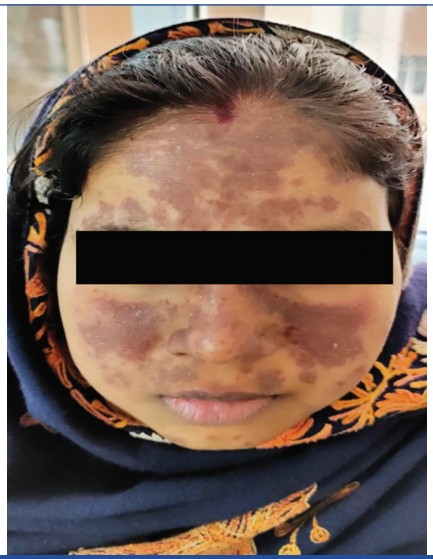
ABSTRACT

Systemic Lupus Erythematosus (SLE) affects various systems in human including central and peripheral nervous systems. The Neuropsychiatric Systemic Lupus Erythematosus (NPSLE) is a severe complication of SLE which causes a formidable challenge in term of diagnosis and its management. Acute confusional state (delirium) is a rare entity of numerous symptoms of NPSLE which is being overlooked even though it is associated with increased mortality. The present case report describe about the presentation of SLE consisting of hyperpigmentation maculopapular rashes over face, neck regions, lower back and extremities in a 36-year-old female with abrupt onset and fluctuating course of psychotic symptoms, acute confusional state and oddities in behaviours. Treatment with low dose of antipsychotic (aripiprazole) resolve the symptom with due consideration taken to rule out steroid induced manifestation of above symptoms.

Keywords: Antipsychotic treatment, Diagnostic challenge, Fluctuating thinking and behaviour oddities, Hyperpigmented maculopapular rashes

CASE REPORT

A 36-year-old female presented in the Dermatology Department with 8 months history of pain in multiple joints and intermittent low-grade fever. The pain was localised to joints, non radiating, mild to moderate grade in intensity, without any aggravating or relieving factors. Around 4 months back, she developed lesions over the exposed areas of the face, neck, lower back, and extremities. Lesions were hyperpigmented, involved the nose, and extended to bilateral malar areas, both the eyebrows, forehead, and chin sparing the nasolabial folds. She also developed thinning of frontal hair margin, hyperpigmented macule, and patches over the bilateral palm, hyperkeratotic plaques over the bilateral sole, erythema over nail folds in hand and feet [Table/Fig-1]. Patient did not report of any similar illness in past or in family members.



[Table/Fig-1]: Hyperpigmented lesions involving the nose, and extended to bilateral malar areas, both the eyebrows, forehead, and chin sparing the nasolabial folds.

On examination, she had a temperature of 99°F, pulse rate of 86/min, no pallor, icterus, cyanosis, clubbing, lymphadenopathy, blood pressure was 136/90 mmHg, respiratory rate was 24 cycles/min, clear heart sounds per abdominal examinations reveal no abnormality and no focal neurological deficits. The laboratory investigations showed mild anaemia (Haemoglobin was 7.6 gm/dL), Antinuclear Antibody (ANA) was positive (grade++++), urine analysis showed the presence of albumin 100 mg/dL (3+), 24 hour urinary protein showed 501.2 mg/day, Thyroid Stimulating Hormone (TSH) was 16.06 IU/mL, serum electrolytes were within the normal range [Table/Fig-2].

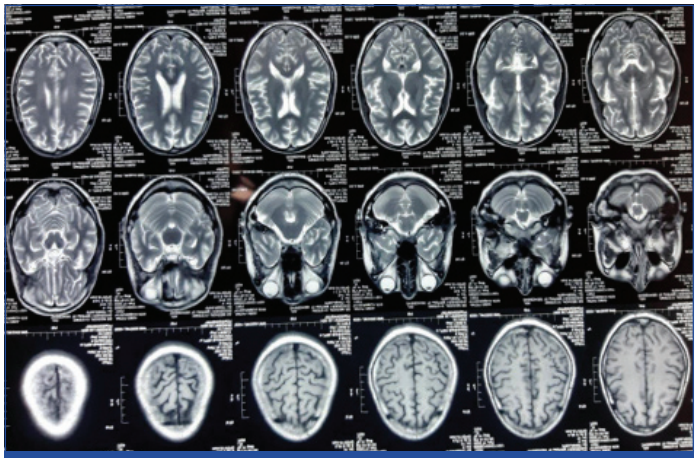
Parameter	Results
Haemoglobin (g/dL)	7.6
WBC count (10^3/uL)	3.40
Platelet count (10^3/uL)	83
RBC count (10^6/uL)	2.76
PCV (%)	25.3
MCV (fL)	94.8
MCH (pg)	28.5
MCHC (g/dL)	30.0
RDW-CV (%)	16
Neutrophils (%)	80.0
Lymphocytes (%)	13.8
Monocytes (%)	5.9
Eosinophils (%)	0
Basophils (%)	0.3
Random plasma glucose (mg/dL)	113
Kidney function tests	
Serum urea (mg/dL)	32.9
Creatinine (mg/dL)	0.92
Uric acid (meq/L)	8.57
Serum calcium (meq/L)	8.59
Phosphorus (meq/L)	3.80
Sodium (meq/L)	140.8
Potassium (meq/L)	3.50
Chloride (meq/L)	109
Liver function tests	
Total bilirubin (mg/dL)	0.47
Direct bilirubin (mg/dL)	0.21

Indirect bilirubin (mg/dL)	0.26
ALT/SGPT (U/L)	64.2
AST/SGOT (U/L)	84.8
ALP (U/L)	165.0
Total protein (g/dL)	6.36
Albumin (g/dL)	3.00
Globulin (g/dL)	3.35
A/G ratio (g/dL)	0.90
Thyroid function tests	
FT3 (pmol/L)	4.02
FT4 (pmol/L)	11.97
TSH (IU/mL)	16.06
Urine examination	
Volume	30 mL
Colour	Pale yellow
Appearance	Clear
Odour	Aromatic Yellow
Specific gravity	1.020
Reaction/pH	6.0
Protein/Albumin	3+, 100 mg/dL
Reducing sugar	nil
Ketone bodies	nil
Bilirubin	nil
Urobilinogen	0.2E.U/dL
Nitrite	Absent
Microscopic examination	
WBC	nil
RBC	nil
Epithelial cells	2-3
Urine fat globules	nil
Casts	nil
24 hour urinary protein	501.2 mg/day

[Table/Fig-2]: MRI Findings-Tiny diffusion bright foci in bilateral centrum semi ovale and parietal lobe gyri which was suggestive of vasculitis, reversible vasoconstrictive. APLA Profile-negative; ANA Titre-1: 80; Grade-++++; WBC: White blood cell; RBC: Red blood cell; PCV: Packed cell volume; MCV: Mean corpuscular volume; MCH: Mean corpuscular haemoglobin; MCHC: Mean cell haemoglobin concentration; RDW-CV: Red cell distribution width-coefficient of variation; AST: Aspartate aminotransferase; ALT: Alanine transaminase; SGPT: Serum glutamic pyruvic transaminase; SGOT: Serum glutamic oxaloacetic transaminase

She was diagnosed with Systemic Lupus Erythematosus (SLE) with lupus nephritis and admitted to the Dermatology Ward for initiating immunosuppressive therapy including three consecutive days of intravenous methylprednisolone pulses (1,000 mg/day for three days). Followed by oral prednisone 0.5 mg/kg/day for 4 weeks and the dose was further tapered by 5 mg every other day each week to a dose of 0.25 mg/kg every other day or the minimal dose required to control extrarenal disease [1]. On the second day of admission, she developed a low-grade fever, pain during swallowing food with a sudden change in behaviour (shouting, running, restlessness, making odd hand and facial gestures) for which psychiatric consultation was done. Pulse therapy was stopped due to the suspicion of steroid-induced psychosis and she was started on hydroxychloroquine 200 mg BD, azathioprine 50 mg BD, thyroxin 50 microgram/day, paracetamol 650 mg for control of pain.

On detailed evaluation by the Psychiatry team, she expressed suspicion of being mocked by villagers due to her skin lesions 10 days before getting admitted. For the last 2 days, she expressed her suspicion and fear of being killed by the people in the ward which was contrary to any evidence, had a fluctuating orientation to time, place, and person, showed hypervigilant behaviour, with worsening of symptoms in the evening. She had perplexed affect, incoherent speech and her thought content revealed persecutory delusion, fleeting in nature, and had a perceptual abnormality in the form of auditory hallucination commenting type with impaired recent and immediate memory. She was pre morbidly well-adjusted and had no significant past or contributory family history. She denied being treated for her psychiatric or medical conditions elsewhere. Diagnosis of delirium was made on basis of the above findings as per 10th revision of the International Classification of Mental and Behaviour Disorders (ICD-10) [2]. Magnetic Resonance Imaging (MRI) of the brain was advised for identification of lesions associated with Neuropsychiatric Systemic Lupus Erythematosus (NPSLE) (like infarcts or myelopathy) and other differential disorders (like tumours or infections) which showed tiny diffusion bright foci in bilateral centrum semi ovale and parietal lobe gyri suggestive of vasculitis, reversible vasoconstrictive changes [Table/Fig-3].



[Table/Fig-3]: Magnetic Resonance Imaging (MRI) findings-Tiny diffusion bright foci in bilateral centrum semi ovale and parietal lobe gyri which was suggestive of vasculitis, reversible vasoconstrictive changes.

Treatment was started with haloperidol 5 mg in divided doses which was gradually increased to 10 mg. There was an improvement in orientation and behavioural changes. After 1 week, her psychotic symptoms subsided. During treatment she developed tremors in tongue and hand, had decreased eye blinking, masked facies, rigidity and decreased arm swing during walking. On suspicion of Extra Pyramidal Symptoms (EPS) due to haloperidol, the dose was reduced to 5 mg/day and she was switched to aripiprazole 7.5 mg/day. After control of psychotic symptoms, she was given pulse therapy with dexamethasone 80 mg, and cyclophosphamide 500 mg for 3 consecutive days. When she did not have any active psychiatric symptoms, she was discharged on hydroxychloroquine 200 mg BD, azathioprine 50 mg OD, thyroxin 50 mcg/day and aripiprazole 7.5 mg/day which was tapered and stopped within 1 week. She was maintaining well during subsequent follow-up which was done initially weekly for a month then fortnightly and increased to monthly intervals.

DISCUSSION

The acute confusional state is one of the rare manifestations of NPSLE and it is associated with increased morbidity and mortality [3]. The prevalence of acute confusional state in SLE reported to be round 4-7% [4,5]. It is a diffuse neurological dysfunction that is equivalent to delirium in the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5) and varies widely from mild confusion and disturbed attention to profound disorganisation with agitation and hallucinations [6]. It occurs due to Central Nervous System (CNS) infection, metabolic changes, alteration of drug treatment etc., especially corticosteroids [7]. Here, authors reported a case of delirium with SLE and discuss the challenges in its diagnosis and management.

There are many similar studies which found that identification of acute confusional state and differentiating it from psychosis in SLE remains a challenge and it also affects its management. Similarly, they also

highlighted that the role of low doses of antipsychotic (risperidone, haloperidol, quetiapine) with steroids to tackle such entity as with our case [8-11]. If psychosis is identified, it is important to differentiate primary NPSLE from corticosteroid-induced psychosis. Corticosteroid-Induced Psychotic Disorder (CIDP) typically starts 5~14 days after initiation or after an increase in the dose of corticosteroid therapy, is dose-dependent, and regresses with steroid discontinuation [12]. In the present case, as corticosteroid was given only for 1 day, it was likely that acute confusional state was not corticosteroid-induced. A strict differential diagnosis and individualisation of treatment depending on the neuropsychiatric presentation and severity of symptoms is crucial in the management of NPSLE. If NPSLE is severe (acute confusional state, seizures, encephalitis), it should be treated with immunosuppressive drugs. However, the challenge of using corticosteroid or pulse therapy is Corticosteroid-Induced Psychiatric Disorder (CIPD) [13].

CONCLUSION(S)

A great degree of expertise and clinical skill is needed for identification of acute confusional state as an initial manifestation of NLSLE or its treatment so that it is not falsely attributed to a psychiatric symptoms and medical treatment will be foregone. Various symptoms of delirium as disorganised thinking may overlap the core symptoms of psychosis leading to bias in diagnosis and its management as in our case. Thus, early recognition and timely treatment of such entities is important for reducing mortality and morbidity.

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