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Autoimmune disorders and postpartum psychosis: Case report with a comprehensive topical review

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Introduction

Autoimmune disorders are common among women and tend to vary in their clinical manifestations during pregnancy and the postpartum period [1–4]. Certain autoimmune disorders tend to improve during pregnancy e.g. rheumatoid arthritis whereas others like systemic lupus erythematosus (SLE) tend to worsen [5]. Multiple autoimmune disorders often coexist together and result in complex presentations to immunologists, physicians, rheumatologists, dermatologists, neurologists and psychiatrists [6]. The protean clinical manifestations requires close collaboration between different specialties to ensure a comprehensive care. The literature on postpartum psychiatric illness presenting as flare ups of multiple autoimmune disorders during postpartum is sparse [4,7,8]. In this report, we discuss a case that demonstrates the complex clinical manifestations of autoimmune disorders. We also review the literature on the topic.

Case report

A 25-year-old woman in her 4th month postpartum presented to the Mother-Baby Psychiatry inpatient unit with reduced food intake, disturbed sleep and catatonic symptoms in the form of mutism, posturing, immobility. She had earlier consulted a local psychiatrist for these complaints before being referred to us and had been treated with olanzapine 25 mg/day and lorazepam 2 mg/day for 3 weeks with minimal improvement.

She had been undergoing treatment for rheumatoid arthritis (RA) for 6 years and was on irregular treatment with Disease Modifying Anti Rheumatoid Medication (DMARD), viz. sulfasalazine 1000 mg, hydoxychloroquin 400 mg and prednisolone 10 mg. Lack of affordability contributed to non-adherence and she also developed deformities of bilateral hands and feet. There was exacerbation of RA during second week of postpartum with subjective report of increased pain in the small joints for which above medications were restarted by the rheumatologist. Additionally, she was detected to have hypothyroidism was on 75 mcg/day of thyroid hormone supplementation. Patient did not have any past history of psychiatric manifestations. Patient's mother and maternal grandmother had foot deformities in the form of hallux valgus and hammer toe but had not received any specific treatment for the same. None of the family members had a history of postpartum psychiatric illness.

Personal and Reproductive history, she married her maternal uncle (2nd degree consanguineous marriage) at the age of 19 years and had twice undergone medical termination of pregnancy, because of a risk of foetal anomalies of and due to exposure to immunosuppressant drugs as a consequence of unplanned pregnancies. Out of frustration and her intense desire to have a baby, she had stopped all medication for her autoimmune disorder, without consulting a rheumatologist. There was also pressure from her husband and in-laws to conceive. During her antenatal check-ups, she had not disclosed her medical condition to the health worker for fear that she would be asked to restart medications for RA. Her pregnancy and delivery were uneventful, and she had a

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normal vaginal delivery. However, during the second week postpartum there was a flare up of her arthritis. She reported severe pain in her hands and fingers and difficulty in holding her baby while breastfeeding. She began to worry about her inability to care for her infant in view of her disability and approached the rheumatologist, who advised DMARDs viz- sulfasalazine 1000 mg, and hydoxychloroquin 400 mg along with prednisolone 10 mg. She stopped breastfeeding because of the fear of medication exposure to the infant. Following this however, her anxiety about not being able to care for her infant worsened. A month later, she also developed, nihilistic delusions that her hands were missing. Over a period of two months, she began to experience pervasive sadness, easy fatigability, early morning worsening of her mood, crying spells, death wishes and guilt.

She was treated by the local psychiatrist with olanzapine up to 25 mg/day and lorazepam 2 mg/day for 3 weeks with minimal improvement before being referred to our specialist perinatal psychiatry service.

At admission, detailed mental status examination revealed that she had depressed mood with poor reactivity and lack of interest in all activities. Her psychomotor activity was reduced and thinking was slow. She had a strong belief that with deformities in her both hands, she would not become a 'good mother'. She also had a strong conviction that both her hands did not exist which suggests nihilistic delusions. She was pessimistic about the future of her baby and about herself. During admission, she repeatedly expressed her wish to die due to inability to take care of herself and baby. Cognitive functions in the form of orientation and memory were normal.

Physical examination at this time revealed exophthalmoses with conjunctival congestion, hyperpigmentation of malar regions, chapped lips with dryness of oral mucosa and diffuse non-tender thyroid swelling. Examination of the joints revealed swan-neck and boutonniere deformities in both hands, and hammer-toe deformities in both feet. Respiratory system examination showed left unilateral crepitation. Mental status examination revealed depressed and anxious mood, depressive cognition, death wishes, nihilistic delusions that her hands were missing, and guilt that she would not be able to take care of her child; cognitive functions were normal.

Measurements: She scored 30 on Edinburgh Postnatal Depression Scale (EPDS) [9] during the first week of assessment. On the Brief Psychiatry Rating Scale (BPRS) [10], she scored high on items corresponding to depressed mood, anxiety, tension, somatic concern, guilt feelings, emotional withdrawal, suspiciousness, emotional withdrawal. Total score on BPRS was 47 in the first week of admission. Her Clinical Global Impression (CGI) [11] score was 6 at the time of admission, indicating severe illness.

An International Classification of Diseases 10 (ICD 10) [12] diagnosis of Organic Mood disorder, Severe Depression with Psychotic symptoms was considered as the first possibility. The possible organic causes considered as etiological factors included –rheumatoid arthritis, hypothyroidism and drugs which she was taking for RA i.e. anti-rheumatoid drugs [Disease Modifying Anti Rheumatoid Drugs (DMARD)] and steroids. A differential diagnosis of an independent Severe Depressive Disorder with Psychotic Symptoms of Postpartum onset was also considered.

There was a dilemma about depression arising out of underlying autoimmune disorders vs being an independent manifestation without a link to underlying autoimmune disorders. Initial non-response to psychotropic medications, worsening of rheumatoid arthritis (RA) during postpartum period, hand deformities interfering in infant care, and expression of death wishes were major treatment challenges.

Investigations and treatment

The patient's hematological investigations revealed low hemoglobin levels (10.5 gm/dL) with mild hypochromic and microcytic anemia. Serum electrolytes, vitamin B12, folate, lipids, renal and hepatic parameters and urine microscopy were all within normal limits. Erythrocyte sedimentation rate (ESR) was elevated to 45 mm per hour. Her thyroid profile showed grossly elevated TSH (28.32 mcIU/mL; Normal range: 0.5–5.0 mcIU/mL) with low T3 levels (51.37 ng/dL; Normal range: 80–180 ng/dL). She had elevated thyroperoxidase antibodies (TPO) (141.41 IU/mL; Normal range: Less than 35 IU/mL) and anti-thyroglobulinantibodies (1035 IU/mL; Normal range: Less than 20 IU/mL). Antiphospholipid antibody (APLA) was positive and there were raised RA antibody levels (16 IU/ml in latex agglutination). Antinuclear antibody profile was 1+ positive for antibodies to double stranded DNA (dsDNA), anti-nucleosome and anti-histone autoantibodies and 3+ positive for anti-nucleosome antibodies.

Magnetic Resonance Imaging (MRI) of the brain showed diffuse, age disproportionate cerebral atrophy in the absence of any focal involvement. Chest X-ray revealed reticular shadows suggestive of interstitial lung disease and High-resolution CT (HR-CT) thorax showed consolidation over apico-posterior segment of right upper lobe with hilar lymphadenopathy. Cardiology evaluation was within normal limits. The infant at the time of admission was sixteen weeks old and had no features suggestive of neonatal lupus.

Following these investigations, a final diagnosis (as per International Classification of Disease10) of organic mood disorder, severe depression with psychotic symptoms was considered. The organic causes could be Systemic Lupus Erythematosus, with possible autoimmune vascular changes in the brain and hypothyroidism. Co morbid medical conditions included anemia, rheumatoid arthritis, systemic lupus erythematosus, autoimmune hypothyroidism, interstitial lung disease and keratoconjunctivitis sicca.

There are no specific treatment guidelines for the management of postpartum depression or psychosis in women with SLE. The European League against Rheumatism (EULAR) recommendations for the management of neuropsychiatric SLE note that patients with neuropsychiatric manifestations of SLE associated with a generalized systemic inflammatory process benefit from treatment with immunosuppressant and corticosteroid. However, they also recommend that neuropsychiatric manifestation in SLE (including depression and psychosis) should be first evaluated and treated as in patients without SLE (with antidepressant and/or antipsychotics as appropriate with concomitant cognitive therapy) [13–15].

The choice of fluoxetine was based on a systematic review of literature and expert opinion on pharmacotherapy (2015) based upon three scientific commissions (National Institute for Clinical Excellence, American College of Obstetrics and Gynaecologists, Academy of Breastfeeding Medicine) which found that fluoxetine and paroxetine were superior to placebo in postpartum depression. Though studies have found that fluoxetine produces higher infant levels related to breast feeding [16] we preferred it because our patient was not breastfeeding her child. One more reason for choosing fluoxetine was because of its free availability in public health care facilities. Current evidence base offers no clear indications for choice between typical and atypical antipsychotics in pregnancy and recommend choice be based upon risk benefit analysis [17]. She was already on Olanzapine 25 mg at the time of presentation, as it is a preferred agent during lactation [18] and there is case report on effectiveness of Olanzapine in SLE related psychosis [19]. As the patient was already on olanzapine and had no side effects, we increased it to 30 mg/day. Olanzapine in combination with fluoxetine has been found to confer an advantage in patients with inadequate response to Selective Serotonin Reuptake Inhibitor (SSRI). Lithium was not considered because of the patients pre-existing hypothyroidism.

The dose of thyroxin was increased to 150 μg/day on the advice of the endocrinologist. The sulfasalazine 1000 mg, hydoxychloroquin 400 mg and prednisolone 10 mg were continued in consultation with the rheumatologist.

Clinical observation over the next two weeks, however revealed only minimal improvement in her psychiatric symptom profile. In view