Peripartum Psychosis in Eclamptic Mothers: A Case Report

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Abstract.
Background: Pre-eclampsia and Eclampsia are hypertension in pregnancy that affect multiple organ systems, including the central nervous system. Seizures or loss of consciousness are the most common complications that change the diagnosis of preeclampsia to Eclampsia. The neuropsychiatric complications of this endothelial disease include psychosis. Eclamptic psychosis, both with and without seizures (Donkin psychosis), can be categorized as a brief psychotic disorder with peripartum onset according to the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5).

Case report: Mrs. S, 21 years old, in her first pregnancy, at 34 weeks gestational age, came to the emergency department (ER) because of visual and auditory hallucinations. The patient then experiences seizures in the ER for 1-2 minutes. The patient's family reported that the patient had a history of preeclampsia, but she did not take her medication regularly. The obstetrician immediately consulted the patient and planned to undergo caesarean surgery to terminate the baby. After surgery, she became disorientated, agitated, violent toward others, and had paranoid delusions. She was given antipsychotic treatment, and after six days, she finally recovered to a condition where she did not remember experiencing delusions and being agitated but still remembered experiencing visual and auditory hallucinations.

Conclusion: The patient was diagnosed with a brief psychotic disorder with peripartum onset. This is caused by one of the organic diseases pregnant women suffer, Eclampsia, so the diagnosis can also be called eclampsia psychosis. She was treated with antipsychotic medication.
Keywords: Eclampsia, preeclampsia, peripartum psychosis, Donkin psychosis

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Introduction

Pregnancy is an essential phase in life that involves significant changes and creates daily stressors, making women more vulnerable to medical (e.g., preeclampsia, Eclampsia, and gestational diabetes) and psychiatric issues (depression, mania, and psychosis).[1] Preeclampsia and Eclampsia are hypertension in pregnancy that affect multiple organ systems, including the central nervous system, which can then cause significant morbidity and mortality.[2]

The criteria for determining preeclampsia are 1) hypertension and proteinuria that are first detected after 20 weeks of gestation; 2) systolic blood pressure (BP) ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg, 3) proteinuria level ≥ 300 mg/24 hours or ≥ 30 mg/mmol in one sample or ≥ 1 dipstick. Seizures or loss of consciousness are the most common complications that change the diagnosis of preeclampsia to Eclampsia.[2] There were similarities in clinical features between preeclampsia and psychiatric disorders after first delivery. A population-based cohort study in Denmark showed that women with their first pregnancy were at increased risk for a first episode of psychiatric disorder, but preeclampsia significantly increased the risk.[3]

The central hypothesis is that preeclampsia results from the remodelling of damaged spiral arteries, causing cellular ischemia in the placenta and an imbalance between anti-angiogenic and pro-angiogenic factors. The inequality that supports these anti-angiogenic factors causes widespread endothelial dysfunction, affecting all maternal organ systems.[4] The neuropsychiatric complications of this endothelial disease include psychosis. Eclamptic psychosis is the second most common neuropsychiatric disorder associated with childbirth.[5] Eclamptic psychosis is one that most affects first pregnancies. In eclamptic psychosis, seizures may begin before, during, or after delivery, but the symptoms of psychosis start after delivery.[6]

Donkin psychosis is another variation of peripartum psychosis, in which the diagnosis is a specific form of eclamptic psychosis without seizures (EPWS).[7] Donkin psychosis was first proposed by Arthur Donkin in 1863. As with preeclampsia and Eclampsia, although the aetiology and pathophysiology are still unclear, it may be associated with placental ischemia, endothelial dysfunction and spasm, increased blood pressure, and thrombophilia. Some clinical picture that appears is impaired consciousness (such as delirium), improved mood, retrograde amnesia or other cognitive defects in some patients, such as dysphasia and hemiplegia. [5,7]

Eclamptic psychosis, both with and without seizures (Donkin psychosis), can be categorized as a brief psychotic disorder with peripartum onset according to the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5).[8] This report will describe a case of peripartum psychosis in eclamptic mothers, or what is also called eclamptic psychosis.[6]

Case Report

Mrs S, a 21-year-old woman in her first pregnancy, at 34 weeks gestational age, came to the emergency department (ER) because of visual and auditory hallucinations. The patient said she often saw her deceased mother around the house and heard her mother's voice whispering. This happened about three days ago, starting with headaches and vomiting, which were getting more frequent. The patient then experiences seizures in the ER for 1-2 minutes, with a tonic-clonic seizure pattern. After the seizure, the patient was confused for ±30 minutes, and her consciousness improved.

The patient's family reported that the patient had a history of preeclampsia. She was just diagnosed by the obstetrician at 28 weeks gestational age and was prescribed nifedipine, but she did not take medication regularly. The patient denied any history of previous head trauma. History of substance abuse was denied. History of having experienced psychiatric disorders before pregnancy or during pregnancy was denied.

On physical examination, BP 190/112 mmHg, heart rate 121 times/minute, respiratory rate 24 times/minute, body temperature 38.2°C. Right and left pretibial oedema were found. The obstetrician immediately consulted the patient and planned to undergo caesarean surgery to terminate the baby. The patient's child was born with a weight of

2500gr and an Appearance, Pulse, Grimace, Activity and Respiration (APGAR) score of 9.

After surgery, she became disorientated and had paranoid delusions, in which she screamed, alleging that the nurse, doctor on duty, and other hospital staff were trying to poison her. She acted agitated and violent towards medical personnel and required restraints.

She was referred to a psychiatrist by the obstetrician on the second day after surgery. The patient was given olanzapine 5 mg because she could not breastfeed her child during treatment. The obstetrician also gave her nifedipine. After six days, she finally recovered to a condition where she did not remember experiencing delusions and agitation but still remembered experiencing visual and auditory hallucinations.

The patient was finally allowed to go home for hospitalization from the obstetrics and psychiatry department and was scheduled to come to the psychiatric polyclinic a week later for control. When reconsulting to the psychiatric polyclinic, the patient did not show any symptoms of psychosis. Patients and families were informed that her eclampsia diagnosis caused the possibility of her peripartum psychosis. Finally, the patient was allowed to go home without returning to the psychiatric polyclinic.

Discussion

According to DSM-5, brief psychotic disorder is characterized by the sudden onset of psychotic symptoms, including delusions, hallucinations, incoherent speech, or catatonia. The symptoms are temporary, lasting at least one day and less than one month. The DSM-5 specifies the diagnostic criteria for diagnosis as 'with peripartum onset' if the symptoms are experienced during pregnancy or within the first four weeks postpartum.[8]

Peripartum psychosis is a rare disease compared with peripartum anxiety and depression. This only occurs in 0.89 to 2.6 of every 1000 births. The onset of peripartum psychosis usually occurs soon after delivery.[9]

Historically, other cerebral or systemic conditions, such as Eclampsia, delirium, thyroid disorders, or infection, have become important causes of psychosis during pregnancy and childbirth.[10] The neurological manifestations of Eclampsia are varied. Seizures are the most frequent complication. Other symptoms include headaches, decreased vision to the point of blindness, aphasia, facial nerve palsy, and brain haemorrhage. These symptoms may also present in women with severe preeclampsia.[2] Psychiatric symptoms generally manifest as Eclampsia develops, including delusions and visual hallucinations.[11] Several studies have linked eclamptic psychosis to Eclampsia, in which 259 women had psychosis among 8,467 eclampsia. Prevalence ranges from 1 percent to almost 8 percent. Meanwhile, in 321 cases of peripartum psychosis, 13 mothers (4%) had Donkin psychosis.[5]

The patient's symptoms fit the definition of a peripartum-onset psychotic disorder, in which there are sudden hallucinations, delusions, and agitation during pregnancy or the first four weeks after delivery. Hallucinations occur before the onset of a seizure, but fantasies and maniacal state appear and worsen after the seizure occurs. In eclamptic psychosis, psychotic symptoms appear after the patient has a seizure, according to this patient. This is probably identical to the post-ictal psychosis in patients with epilepsy.[5] Studies have shown that psychosis and seizures are separate cerebral complications of Eclampsia. In patients with eclamptic psychosis, as in this case, these two things occur at different times. Meanwhile, in Donkin psychosis, only one of the two symptoms is found.[12] Donkin psychosis is similar to delirium, where an acute confusional state is caused by organic disease and can disappear if treated.[7]

The characteristics of this patient are also consistent with the results of previous studies, where peripartum psychosis predominated in the first pregnancy, occurred in mothers at a young age, and was brief. Most episodes are 3-4 days long. The median for

peripartum psychosis in eclamptic mothers was eight days, and for Donkin psychosis, it was 14 days. Although there are some atypical features in this case, such as no history of psychiatric illness from the patient or his family. [5,7]

Until now, there are no management guidelines for peripartum psychosis. However, in many cases, it was treated with antipsychotic therapy. In this case, the antipsychotic olanzapine was given by the literature showing that administration of olanzapine as monotherapy or in combination with other psychotropic drugs is effective for the treatment and prevention of peripartum psychosis.[13] Like many psychotropic drugs, the safety of olanzapine in breastfeeding has not been studied sufficiently, but there is some evidence of its compatibility with breastfeeding.[14] Olanzapine exposure in newborns of breastfeeding mothers is minimal. Infants exposed to olanzapine through breast milk experienced adverse effects in 15.6% of cases; symptoms included somnolence, irritability, tremors, and insomnia.[15] In contrast, according to multiple studies, utilizing olanzapine had no adverse side effects. [16-18] Another study discovered no statistically significant difference in the rate of adverse events between breastfed infants exposed to olanzapine and infants who were not.[19]

In addition to antipsychotics, mood stabilizers, hormone therapy, and electroconvulsive therapy (ECT) are also given. Some evidence of success has been found for all treatments except hormone therapy. The most substantial evidence was found for ECT, in which three small studies reported improvement in all women undergoing ECT for peripartum psychosis.[3] In Donkin psychosis, there was successful treatment with antihypertensive drugs alone, but further research is needed.[7]

According to the case, eclamptic psychosis generally has a short duration, usually 1-2 weeks. The recurrence rate of eclamptic psychosis remains unknown, although Eclampsia recurs in 1-2% of patients. In the literature, there are several cases of relapse of psychosis in subsequent pregnancies, but all without Eclampsia. There are many examples of normal pregnancies after eclamptic psychosis, but further investigation is needed regarding the prevalence of recurrence.[6]

Meanwhile, postpartum psychosis is less common and less frequently diagnosed, with a frequency of only 0.1%-0.2% of the population. Postpartum psychosis was developed in 28% of pregnant women with a history of psychosis, with 90% of postpartum psychosis hospitalizations in the first four weeks following delivery. Suicidal thoughts, aggressive behaviour, and even infanticide are frequent. Early detection and strict treatment are crucial for postpartum psychosis since it has adverse effects on functioning, a significant risk of suicide, and may even result in infanticide.[20]

Conclusion

In this case, the patient was diagnosed with a brief psychotic disorder with peripartum onset. This is caused by one of the organic diseases pregnant women suffer, Eclampsia, so the diagnosis can also be called eclampsia psychosis. She was treated with antipsychotic medication. Further research is needed for the treatment guidelines and prevalence of recurrence.

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