

Preeclampsia as a Possible Etiology in Postpartum Psychosis: A Case Report

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Abstract

Postpartum psychosis is characterized by a rapid development of bizarre delusions, sleeplessness, affective symptoms, and disorganized behavior that jeopardize the safety of the newborn baby and the mother. Despite the risk factors identified, the pathogenesis of PP is unclear. We report a case which had an emergency cesarean section due to preeclampsia and developed postpartum psychosis. This case without a history of previous psychiatric disease was presented in contributing to our understanding of the etiology of PP.

Keywords: Preeclampsia; Postpartum psychosis

Introduction

Postpartum psychosis (PP) is characterized by a rapid development of bizarre delusions, sleeplessness, affective symptoms, and disorganized behavior that jeopardize the safety of the newborn baby and the mother [1].

Some risk factors for postpartum psychosis have been identified in previous research, such as primiparity, delivery complications, high age, a poor social environment and previous psychiatric disorders [2-5]. Despite the risk factors identified, the pathogenesis of PP still remains unclear. Researches on women who experience PP have been limited due to barriers such as the relative rarity of this disorder and the controversy about the nosology of PP.

We report a case which had an emergency cesarean sec-

tion due to preeclampsia and developed postpartum psychosis. This case without a history of previous psychiatric disease was presented in contributing to our understanding of the etiology of PP.

Case Report

Mrs X is a 44-year-old female who was experiencing her 6th pregnancy and who was in the 33rd week of her pregnancy according to ultrasonographic examination, was presented to emergency room with the complaints of headache, blurred vision and abdominal pain. At the time of admission, her blood pressure was 170/110 mmHg and her pulse rate was 112/min. Full urinalysis showed +++ (3 positives) proteinuria. LDH measurement was 740 U/L, platelet count was 22,4000/mm³ and urea was 50.5 mg/dL. The patient diagnosed with preeclampsia had 6 g MgSO₄ loading for convulsion prophylaxis and she was initiated to receive the maintenance therapy with 2 g/100 mL/hour MgSO₄ and nifedipine 30 mg/day for the control of hypertension. In the patient with a blood pressure that was reduced to 150/90 mmHg, the headache remained. Upon the onset of loss of consciousness, she was immediately taken to emergency caesarian section. Due to prematurity and respiratory distress, the baby was hospitalized in the newborn intensive care unit. Although vital signs of the patient, who continued to receive the maintenance therapy with MgSO₄ for another 24 hours after the delivery, were normalized. Because of the agitation that led to disorganized behaviors, immediately after preterm delivering, neurology consultation was asked. The neurologic examination and the Computerized Tomography of the patient were normal. Therefore, the patient who was asked to have a psychiatry consultation was accepted in our clinic.

In her mental state examination, she wasn't oriented to time and person. Cooperation was difficult and her associations were scattered. She was talking without sense. She had visual and auditory hallucinations to harm herself and child. She had emotional lability. She exhibited disorganized behaviors. There was no known previous psychiatric history and family psychiatric history. When vital signs were evacuated, it was seen that blood pressure was 140/90 mmHg

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and pulse rate was 88/min. Routine hemogram, liver function test, vitamin B₁₂, folate and thyroid function tests were within normal limits.

Based on history and clinical presentation, she was diagnosed with postpartum psychosis. The differential diagnosis included delirium. Internal Medicine and Neurology consults could not provide a medical explanation. The patient initiated to be given 20 mg/day olanzapine. For hypertension, amlodipine 10 mg/day was initiated. We had to give Haloperidol 10 mg IM every day because of the disorganized behaviors. However, the patient did not show any improvement of clinical presentation and refused eating. Her auditory hallucination to harm herself and child continued since the first admission. We discussed electroconvulsive therapy (ECT) with the patient and her husband. After the approval of her husband we started ECT and olanzapine was stopped on the hospital day 8. After the first ECT, disorganized behaviors showed a marked improvement and the patient began to eat. Following the 2nd ECT, her auditory and visual hallucinations were resolved and she began to self-care and her affect was euthymic. A total of 5 ECTs were administered. She continued to receive 10 mg/day haloperidol along with ECT.

After ECT therapy, she wanted to see her baby and she became happy for having seen her baby healthy on hospital day 24. She was discharged on hospital day 32, with a follow up psychiatry appointment arranged. She had prescriptions for haloperidol 10 mg/day and amlodipine 10 mg/day. She is still under our follow-up.

Discussion

Preeclampsia is defined as the rise of systolic blood pressure, 140 mmHg and the diastolic blood pressure, 90 mmHg on two or more consecutive occasions assessed 6 h or more apart accompanied by the onset of proteinuria (300 mg/24 h or +1 in dipstick) after 20 weeks of pregnancy [6]. Eclampsia is defined as seizures that cannot be attributable to other causes, in a woman with preeclampsia. Eclampsia induced PP have been reported in the literature [7]. Brockington suggest that eclamptic psychosis particularly affects primipara and the onset of psychosis is postpartum [7]. But there is limited data on the relationship between psychiatric factors and preeclampsia. Very few studies have examined the correlation between preeclampsia and depression and have yielded different results. Kurki et al [8] observed that depression and anxiety or both were associated with an increased risk of preeclampsia. Qiu et al illustrated that depression and depressive symptoms were related to an increased risk of preeclampsia [9].

However, the studies to investigate the effect of preeclampsia on psychiatric disorders during the post-partum period are limited. Nager et al investigated that effect of se-

rious obstetric complications on the postpartum psychosis. In mentioned study, it was showed that only preterm birth and acute caesarean section were significant risk factors for postpartum psychosis [10]. Our case had also a history of preterm birth and acute caesarean section.

The strongest risk factor for developing PP is a personal or family history for psychotic illness [11]. There may be genetic predisposition to psychosis in such individuals. However, the pathogenesis of PP in mothers with no previous psychiatric diagnosis remains unclear. Rapid alterations in circulating steroid hormones following birth have consistently been suggested to play a role in PP etiology as have primiparity, maternal sleep problems, maternal stress in puerperium and maternal age [11, 12]. Precious studies suggest that PP is often a manifestation of a bipolar disorder condition that is triggered by childbirth [2, 13, 14]. However, our case was not primipara and has not any psychiatric history.

There are a lot of researches and case reports related to effects of ECT of PP in the literature [15, 16]. Reed et al [16] compared the clinical response to ECT in women with PP and non-postpartum psychosis. According to this study the patients with PP was found to have greater clinical improvement following ECT compared to the non postpartum group. Our patient was treated with ECT and was rapidly improved with first ECT session.

Our case is the first report of a PP case of the literature with advanced age, presence of 4 previous deliveries and the lack of a history of previous psychiatric disease that possibly inducted by preeclampsia. Knowledge on how postpartum psychosis is related to certain obstetric variables will be helpful in the clinical risk assessment of postpartum psychosis.

References

1. Bergink V, Lambregtse-van den Berg MP, Koorengel KM, Kupka R, Kushner SA. First-onset psychosis occurring in the postpartum period: a prospective cohort study. *J Clin Psychiatry*. 2011;72(11):1531-1537.
2. Kendell RE, Chalmers JC, Platz C. Epidemiology of puerperal psychoses. *Br J Psychiatry*. 1987;150:662-673.
3. Videbeck P, Gouliaev G. First admission with puerperal psychosis: 7-14 years of follow-up. *Acta Psychiatr Scand*. 1995;91(3):167-173.
4. Blackmore ER, Jones I, Doshi M, Haque S, Holder R, Brockington I, Craddock N. Obstetric variables associated with bipolar affective puerperal psychosis. *Br J Psychiatry*. 2006;188:32-36.
5. Nager A, Johansson LM, Sundquist K. Are sociodemographic factors and year of delivery associated with hospital admission for postpartum psychosis? A study of 500,000 first-time mothers. *Acta Psychiatr Scand*. 2005;112(1):47-53.
6. Mustafa R, Ahmed S, Gupta A, Venuto RC. A compre-

- hensive review of hypertension in pregnancy. *J Pregnancy*. 2012;2012:105918.
7. Brockington IF. Eclamptic psychosis. *Arch Womens Ment Health*. 2007;10(2):87-88.
 8. Kurki T, Hiilesmaa V, Raitasalo R, Mattila H, Ylikorkala O. Depression and anxiety in early pregnancy and risk for preeclampsia. *Obstet Gynecol*. 2000;95(4):487-490.
 9. Qiu C, Sanchez SE, Lam N, Garcia P, Williams MA. Associations of depression and depressive symptoms with preeclampsia: results from a Peruvian case-control study. *BMC Womens Health*. 2007;7:15.
 10. Nager A, Sundquist K, Ramirez-Leon V, Johansson LM. Obstetric complications and postpartum psychosis: a follow-up study of 1.1 million first-time mothers between 1975 and 2003 in Sweden. *Acta Psychiatr Scand*. 2008;117(1):12-19.
 11. Sit D, Rothschild AJ, Wisner KL. A review of postpartum psychosis. *J Womens Health (Larchmt)*. 2006;15(4):352-368.
 12. Valdimarsdottir U, Hultman CM, Harlow B, Cnattingius S, Sparen P. Psychotic illness in first-time mothers with no previous psychiatric hospitalizations: a population-based study. *PLoS Med* 2009;6(2):13.
 13. Jones I, Craddock N. Familiality of the puerperal trigger in bipolar disorder: results of a family study. *Am J Psychiatry*. 2001;158(6):913-917.
 14. Harlow BL, Vitonis AF, Sparen P, Cnattingius S, Joffe H, Hultman CM. Incidence of hospitalization for postpartum psychotic and bipolar episodes in women with and without prior prepregnancy or prenatal psychiatric hospitalizations. *Arch Gen Psychiatry*. 2007;64(1):42-48.
 15. Forray A, Ostroff RB. The use of electroconvulsive therapy in postpartum affective disorders. *J ECT*. 2007;23(3):188-193.
 16. Reed P, Sermin N, Appleby L, Faragher B. A comparison of clinical response to electroconvulsive therapy in puerperal and non-puerperal psychoses. *J Affect Disord*. 1999;54(3):255-260.