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Pre-eclampsia and the Risk of Development of Psychiatric Disorders

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Abstract

Pre-eclampsia (PE) is a severe disease of pregnancy occurring most often around 20 weeks gestation and marked by symptoms of new-onset hypertension, proteinuria, and end organ damage. Given its high prevalence and serious risk in causing complications, it is important to understand the etiology and potential outcomes of PE. Emerging research suggests that PE during pregnancy may be associated with an increased risk of severe psychiatric disorders in the mother. In this study, we aim to review the current literature examining whether women with PE are more likely to develop subsequent psychiatric disorders including psychosis, mania, and PTSD.

Keywords: Psychosis,PTSD,Preclampsia

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1. Introduction

Pre-eclampsia (PE) is a severe disease occurring most often around 20 weeks' gestation and comprises 2-8% of pregnancy-related complications, contributing to more than 50,000 maternal deaths worldwide. Marked by symptoms of new-onset hypertension, proteinuria, and end organ damage, this disorder poses a significant risk to both maternal and fetal health. Given its high prevalence and serious risk of causing complications, it is important to understand the etiology and potential outcomes of PE. Emerging research suggests that PE during pregnancy may be associated with an increased risk of severe psychiatric disorders in the mother including psychosis, mania, etc. In this study, we discuss the current literature examining whether women with PE are more likely to develop subsequent psychiatric disorders.

2. Discussion

PE and Neural Impact

Recent studies have been exploring the potential link between PE and the development of psychiatric disorders in mothers. PE as a hypertensive disorder is a known systemic condition with poor understanding of its etiology. The main proposed etiology presently includes the development of uteroplacental ischemia leading to systemic inflammation, vascular dysfunction, and immune dysregulation (1). A major mechanism of neurovascular dysfunction caused by PE is thought to be through its ability to impair cerebral blood flow autoregulation. This exacerbates hyperperfusion of the brain, leading to elevated blood brain barrier permeability and causing neuroinflammation, which in turn may disrupt mood regulation capabilities (2). In patients with genetic predisposition to psychotic illness, the inflammatory or neurovascular stress associated with PE may serve as a potential trigger for onset of illness. PE is one of the most prevalent immune-mediated disorders and like disorders such as postpartum psychosis, is strongly linked to first pregnancies (3). This overlap between the two leads to the idea that women with PE may be associated with a higher risk of developing severe postpartum psychiatric illness.

PE and Mood Disorders

Many studies have shown evidence of PE being a risk factor for postpartum depression and anxiety. Only a few studies, however, have suggested a strong connection between PE and mood disorders. For example, one large Danish population study found that primiparous women are at risk of first onset psychiatric disorders including psychosis, mania, and schizophrenia spectrum disorders (4). More specifically, women with PE were associated with a four times increased risk for first onset of these disorders. Other population-based studies support these findings, with one study finding that patients with pre-eclampsia were at a higher risk for developing postpartum depression and postpartum acute stress reaction than patients without PE (5). While several studies suggest that PE may contribute to the development of psychiatric disorders in the postpartum period, there is also evidence indicating psychiatric illness may emerge antepartum in the context of PE. One documented case report described the onset of acute psychosis in a patient with PE, introducing a potential causal relationship between the two conditions (6). Although the patient had additional risk factors for psychosis, including previous psychiatric history and chronic substance use disorder, the patient's psychiatric symptoms resolved following treatment of PE and delivery. This further suggests that psychosis may have been precipitated by the hypertensive nature of PE.

PE and PTSD

A significant number of women who have experienced PE during their pregnancy report their labor as a traumatic event (7). This is consistent with the fact that PE often leads to the need for more intervention during labor and birth at an earlier gestation than expected. Therefore, there may be a relationship between PE and resultant development of PTSD following birth. There have been studies produced that show evidence of this, with one particularly noting that women who reported a history of PE were over four times as likely to screen positive for PTSD symptoms than women with normal pregnancies (8). However, a recent cohort study showed different results, finding no statistical significance difference in PTSD prevalence at six months postpartum in women with PE compared to those with normotensive pregnancies (9). There are limitations in measuring PTSD symptoms which may explain the difference

in results. Given that the perception of a traumatic birth may vary amongst patients and is a subjective measure, it can be hard to effectively define (10).

3. Conclusion

PE is a hypertensive complication of pregnancy that leads to inflammatory and neurovascular stress posing as a potential trigger for onset of psychiatric illness. Women with PE during their pregnancy may be at an increased risk to developing various psychiatric disorders including psychosis, mania, schizophrenia spectrum disorder, and PTSD. There is a need for continued research on PE, however, to clarify this and support targeted screening and early intervention strategies for pregnant women. As more focused studies examine the relationship between hypertensive disorders of pregnancy and severe psychiatric outcomes, better management, care, and support for affected patients is possible.

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