

ATYPICAL PUERPERAL PSYCHOSIS FOLLOWING SEVERE POSTPARTUM HEMORRHAGE

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INTRODUCTION

Puerperal psychosis (PP) is a rare yet serious psychiatric complication of childbirth, requiring urgent identification and management. Three symptom profiles have been described: *maniac* (34%, manic symptoms and agitation), *depressive* (41%, anxious-depressive symptoms), *atypical* (25%, disturbance of consciousness, high anxiety) (Kamperman et al. 2017).

The onset of PP has been related to psychiatric risk factors, including history of bipolar or schizoaffective disorders, whereas there are no known pregnancy-related or obstetrical risk factors, besides primiparity and, controversially, preeclampsia (Osborne 2018). Here, we report the case of a woman without psychiatric nor obstetrical risk factors who developed PP after severe postpartum hemorrhage.

CASE PRESENTATION

A 24-year-old patient presented with severe postpartum hemorrhage estimated at over 2000 mL, after vaginal delivery and at term of her second child. The persistence of bleeding, after second line treatment with Bakri hemostasis balloon, with hemorrhagic shock, led to a therapeutic escalation, with 3 hemostasis surgery in the 12 hours following delivery: uterine artery ligation, then hemostasis hysterectomy, then internal iliac artery ligation. The first operation occurred 2.5 hours after birth, and the patient was under sedation for 24 hours and transferred in intensive care unit. On postpartum day 2 (i.e., 48 hours after delivery), she was treated for ovarian arteriovenous fistula, and ovarian vein and inferior vena cava thrombus, by

radioembolization and vena cava filter placement. She received patient-controlled analgesia with morphine on postpartum days 3 and 4, then nefopam on postpartum day 5.

On postpartum day 3, she expressed intense anxiety, fear of imminent death, and brief persecutory ideations, believing that staff were going to inject her with lethal drugs. Anxiolytic treatment by alprazolam, reassurance by staff, presence of the husband, and meeting her baby, contributed to reduce anxiety, with no symptoms noted on postpartum day 4.

On postpartum day 5, a few hours after her transfer to the obstetrics unit, she presented dissociative stupor, with minimal persistence of communication. She described visual hallucinations consisting of flashes of light and shapeless colors, associated with anxious reliving of the childbirth. From postpartum days 6 to 10, she presented again these visual hallucinations, along with persecutory delusion against staff, including auditory verbal hallucinations and threat beliefs. The delusions generated anxiety and insomnia, and were criticized by the patient, who used coping strategies to reduce them, e.g., caring for her baby, or singing songs. She also described retrospectively a transient dissociative experience with derealization during postpartum hemorrhage (Peritraumatic Dissociative Experiences Questionnaire score > 15, indicating significant dissociation), and dissociative amnesia with memory lapses of the birth and the first days in intensive care unit, which contributed to anxiety. There were no mood symptoms, agitation, suicidal or infanticide ideations, nor spatial-temporal disorientation, and family support was adequate, allowing her to adapt to motherhood. The patient was reluctant to receive psychotropic treatment, but agreed to receive cyamemazine 25mg whenever she experienced symptoms in the daytime,

and systematically at bedtime (alprazolam was stopped), which progressively improved the delusions and anxiety, and restored sleep and the nyctemeral cycle. Differential diagnoses were ruled out by clinical, biological, and imaging examinations. From postpartum days 11 to 14, she had no further symptoms; cyamemazine 25 mg was continued at bedtime. She discharged from the maternity ward on postpartum day 14, with a prescription for cyamemazine 25mg if needed.

One month later, the patient presented with a post-traumatic stress disorder (PTSD), characterized by intrusive thoughts and anxious flashbacks of childbirth, avoidance of injection of anticoagulants and of meeting pregnant women. She received paroxetine 20 then 30mg, and hydroxyzine 25mg at bedtime, combined with Eye Movement Desensitization and Reprocessing psychotherapy, which significantly reduced symptoms. During removal of the inferior vena cava filter, at postpartum month 4, she experienced again visual hallucinations, and fear of dying. She subsequently discontinued psychiatric follow-up, alleging traumatic avoidance of the hospital, and professional hyperinvestment.

DISCUSSION

This report described a mother without risk factors (i.e., no psychiatric history, nor primiparous), who experienced PP after severe postpartum hemorrhage with subsequent hysterectomy. It raised the question of diagnosis, and possible causality between these situations.

First, this clinical presentation meets the *atypical profile* of PP (Kamperman et al. 2017), as it associates high anxiety, disturbed consciousness (i.e., dissociative stupor), along with abnormal thought content (i.e., persecutory delusion, visual and auditory hallucinations), and sleep disorder. Moreover, the patient presented no mood symptoms, especially irritability and agitation, which are generally early or core symptoms of PP (Heron et al. 2008; Kamperman et al. 2017). In addition, duration of the episode was relatively short, and she subsequently

developed PTSD, whereas PPs are mostly isolated episodes, or transition to mood/bipolar disorder or to chronic psychosis (Gilden et al. 2020; Rommel et al. 2021).

Second, in the context of severe postpartum hemorrhage with subsequent mutilating surgery, this clinical presentation may also be trauma-related. To begin, severe postpartum hemorrhage is a life-threatening condition, and one of the highest obstetrical risk factors of psychological adverse outcomes (Bernasconi et al. 2021). Several symptoms experienced by the patient were compatible with acute stress and persistent dissociation, including peritraumatic dissociation during hemorrhage, then dissociative amnesia, stupor, traumatic memories, and evolution towards a PTSD. In addition, traumas in general, intensive care unit hospitalization, and negative or traumatic childbirths, can lead to delusional or hallucinatory symptoms, i.e., *psychotic-like experiences*, through dissociation or altered sense of the self (Holt et al. 2018000; Wearne et al. 2020), as well as hallucinogenic drugs (Wade et al. 2015). Thus, initially serious medical conditions, potentially involving dissociation, may have favored the onset of this atypical PP.

Management of this episode also emphasizes sleep restoration, which is the most critical when treating PP and can alone lead to recovery (Bergink et al. 2015)

CONCLUSION

This case report shows a succession of peritraumatic dissociation, atypical PP, then PTSD, in this context of life-threatening postpartum hemorrhage. It also sheds light that severe postpartum hemorrhage can favor PP.

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None

Consent

Written informed consent was obtained from the patient.

Conflict of interest

None to declare

Bibliography

1. Bergink V, Burgerhout KM, Koorengel KM, Kamperman AM, Hoogendijk WJ, Lambregtse-van den Berg MP et al. Treatment of Psychosis and Mania in the Postpartum Period. *Am J Psychiatry* 2015; 172: 115–123. DOI: 10.1176/appi.ajp.2014.13121652.
2. Bernasconi M, Eggel-Hort B, Horsch A, Vial Y, Denys A, Quibel T et al. Paternal and maternal long-term psychological outcomes after uterine artery embolization for severe post-partum hemorrhage. *Sci Rep* 2021; 11: 13990. DOI: 10.1038/s41598-021-92847-z

3. Gildea J, Kamperman AM, Munk-Olsen T, Hoogendijk WJG, Kushner SA & Bergink V. Long-Term Outcomes of Postpartum Psychosis: A Systematic Review and Meta-Analysis. *J Clin Psychiatry* 2020; 81: 19r12906. DOI: 10.4088/JCP.19r12906.
4. Heron J, McGuinness M, Blackmore ER, Craddock N & Jones I. Early postpartum symptoms in puerperal psychosis. *BJOG* 2008; 115:348-353. DOI: 10.1111/j.1471-0528.2007.01563.x.
5. Holt L, Sellwood W & Slade P. Birth experiences, trauma responses and self-concept in postpartum psychotic-like experiences. *Schizophr Res* 2018; 197: 531–538. DOI: 10.1016/j.schres.2017.12.015.
6. Kamperman AM, Veldman-Hoek MJ, Wesseloo R, Robertson Blackmore E & Bergink V. Phenotypical characteristics of postpartum psychosis: A clinical cohort study. *Bipolar Disord* 2017; 19: 450–457. DOI: 10.1111/bdi.12523.
7. Osborne LM. Recognizing and Managing Postpartum Psychosis. *Obstet Gynecol Clin North Am* 2018; 45: 455–468. DOI: 10.1016/j.ogc.2018.04.005.
8. Rommel AS, Molenaar NM, Gildea J, Kushner SA, Westerbeek NJ, Kamperman AM et al. Long-term outcome of postpartum psychosis: a prospective clinical cohort study in 106 women. *Int J Bipolar Disord* 2021; 9: 31. DOI: 10.1186/s40345-021-00236-2.
9. Wade DM, Brewin CR, Howell DCJ, White E, Mythen MG & Weinman JA. Intrusive memories of hallucinations and delusions in traumatized intensive care patients: An interview study. *Br J Health Psychol* 2015; 20: 613–631. DOI: 10.1111/bjhp.12109.
10. Wearne D, Curtis GJ, Melvill-Smith P, Orr KG, Mackereth A, Rajanthiran L et al. Exploring the relationship between auditory hallucinations, trauma and dissociation. *BJPsych Open* 2020; 6: e54. DOI: 10.1192/bjo.2020.31.

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