

# Treatment of Hyperemesis Gravidarum by Fluoxetine in a Depressed Pregnant Patient: A Psychosomatic Dimension

*Hyperemesis gravidarum is a severe form of nausea and vomiting (N/V) during pregnancy, affecting 0.3% to 2.5% of all pregnancies, and it is the most frequent cause of hospitalization in the first half of pregnancy. In women with a history of psychiatric illness, the stressors associated with hyperemesis gravidarum can be a trigger for the onset of a new episode. This report describes the case of a pregnant woman with a psychiatric history who presented 6 times for in-hospital treatment of N/V by week 13 of pregnancy.*

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## INTRODUCTION

Hyperemesis gravidarum is a severe form of nausea and vomiting (N/V) during pregnancy, affecting 0.3% to 2.5% of all pregnancies,<sup>1,2</sup> and it is the most frequent cause of hospitalization in the first half of pregnancy. The condition received international media coverage during the prolonged hospitalizations of Kate Middleton, Duchess of Cambridge, during each of her pregnancies, owing to hyperemesis gravidarum.<sup>3</sup>

Nausea with vomiting is a very common occurrence in pregnancy, affecting 70-85% of pregnant women.<sup>4</sup> It is associated with weight loss, nutritional deficiencies, volume depletion, and electrolyte and acid base imbalances. Women can also experience poor sleep and irritability associated with unrelenting vomiting. In women with a history of psychiatric illness, the stressors associated with hyperemesis gravidarum can be a trigger for the onset of a new episode.<sup>5,6</sup>

## CASE PRESENTATION

Ms. B was 21 years old, white, female, with prior diagnoses of major depression, generalized anxiety disorder, and post-traumatic stress disorder (PTSD) from sexual and physical abuse by her father. She presented to the Emergency Department (ED) for N/V during week 13 of pregnancy. Ms. B was admitted to the antepartum unit five times prior to this visit with similar complaints. During those visits, she received intravenous saline and antiemetic treatment with little improvement. The obstetrics and gynecology service consulted psychiatry to assess the patient for possible conversion disorder.

The patient reported that the N/V began around the fourth week of pregnancy and had gotten progressively worse. Her mood was depressed. She denied having mood swings, symptoms of mania, hypomania, and psychosis. The patient further reported that she did not sleep well at night because of nightmares, and would feel tired and have poor concentration throughout the next day. She also reported hypervigilance and flashbacks related to her previous experiences of abuse. Moreover, the patient was ruminating about negative outcomes of her first delivery. Her first child, a son, had been pre-term, had low birth weight, and was diagnosed with hydrocephalus and cerebral palsy. She stated that she was unable to work and had been living off her first son's disability income. In addition, she was dealing with a custody battle for her first son, which was stressful for her. She was also worried about the status of her relationship with her boyfriend, the father of the child that she was currently pregnant with, and reported that he was upset with her for being sick and in the hospital. Her family lived in a different state, and she had very little emotional support.

The patient had received olanzapine, citalopram, aripiprazole, and desvenlafaxine in the past, but her mood never improved. She attempted suicide by hanging when she was 12 years old, and her most recent suicide attempt occurred within the past three years. The patient was non-compliant with treatment and had not taken psychotropic medications for the past several months.

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During the first psychiatric evaluation, Ms. B was concerned about the baby's health because her N/V were keeping her from eating. Her complete blood count and serum chemistry analysis, including thyroid function tests, liver function tests, and pancreatic enzymes, were unremarkable. The urine drug screen was negative and urinalysis was normal. A pelvic ultrasound examination confirmed a singleton intrauterine pregnancy at 14 weeks of gestation. The results of an abdominal ultrasound examination were normal. Initially, the psychiatry team requested the primary team (OB/GYN) to consult internal medicine in order to rule out any other possible medical causes of N/V, and did not recommend any psychotropic medications.

After ruling out possible medical causes for the patient's presentation, the primary OB/GYN team re-consulted psychiatry after a few days because her N/V did not stop. She had been continued on intravenous antiemetic, proton pump inhibitor, and saline with no improvement.

During her second psychiatric evaluation, the patient reported concerns about continuing the pregnancy. She stated several times, "I can't take this anymore." She repeatedly asked, "Would I feel better?" in relation to ending the pregnancy. She was disheveled, lying in her hospital bed, making few attempts to move except to spit saliva repeatedly into a cup that she held. She denied any ideation to harm herself or her living or developing baby.

She was offered multiple treatment options, including medication management for her depression and PTSD symptoms. We recommended that the primary OB/GYN team monitor her for expressed thoughts of self-harm or self-termination of pregnancy, in which case she would be considered for inpatient psychiatric stabilization. She was skeptical about taking a new medication because no medications had helped her in the past. Moreover, she was afraid that she could not take anything by mouth.

After discussion with the OB/GYN team, and taking into consideration the patient's current PTSD and depressive symptoms, she was started on fluoxetine 20 mg/daily. She required significant encouragement from both the OB/GYN and psychiatry teams to take the medication orally. On day four of the treatment, she said that she was relieved that the oral medication had not increased her N/V symptoms. She also reported that she no longer had questions about termination of this pregnancy. She admitted fearfulness about preterm delivery and prematurity, and about postpartum depression, which she experienced with her first pregnancy.

After six days of treatment with fluoxetine, she was tolerating oral intake and oral antiemetic medications. She was discharged with close follow-up in the High Risk Obstetric (HROB) clinic and was given an appointment for the perinatal psychiatry clinic. She attended her HROB appointment and reported improvement in mood and sleep. She reported some continued tolerable nausea and stated that she was looking forward to her psychiatry clinic appointment. At the time of this writing, several months had passed since the patient's last ED visit.

## DISCUSSION

Hyperemesis gravidarum is often managed conservatively with monitoring and reassurance. Doxylamine/pyridoxine is recommended by the American College of Obstetrics and Gynecology (ACOG) as the first-line drug for treating nausea and vomiting in pregnancy. Other medications include antihistamines such as meclizine and diphenhydramine, and antiemetics such as promethazine, chlorpromazine, metoclopramide, and ondansetron.<sup>7</sup>

However, in a woman with the complicated presentation as described above, the approach must be multifactorial.<sup>7</sup> Each attack can be debilitating, and patients may require several ED visits followed by several days of hospitalization for intravenous hydration and antiemetics—not unlike our patient. The exact cause is largely unknown for both hyperemesis gravidarum and cyclic vomiting syndrome, but an interaction of genetic, biological, and psychological factors likely plays a role in both conditions.<sup>8,9</sup>

In the January 2014 publication of the *European Journal of Pharmacology*, Bashashati and McCallum discussed the crosstalk between gastrointestinal microbiota and the nervous system in the regulation of gastrointestinal function. They described the “crosstalk” as bidirectional, explaining that (a) stress and stimuli in the central nervous system can change gastrointestinal microbiota and the susceptibility to gastrointestinal diseases, and (b) alterations of the microbiota affect neuropsychological functions, including behavior.<sup>10</sup> Considering the above reference, it seems that Ms. B's psychosocial stress caused her to have gastrointestinal symptoms which lend psychosomatic dimensions to this case. In addition to antiemetics, a few antidepressants, particularly tricyclic antidepressants and mirtazapine, have been found to be effective in treating cyclic vomiting syndrome. There is some suggestion that SSRIs might play a role in blocking the presynaptic serotonin receptors on sensory vagal nerve fibers.<sup>8</sup>

## CONCLUSIONS

In this case, we were presented with a woman with a history of major depression, generalized anxiety, and PTSD who was currently untreated and exhibiting significant symptoms. Severe, recurrent vomiting was treated, at least partially, as a conversion manifestation of her anxiety about the potential outcome of this pregnancy and her current lack of support. This theory was supported by her recovery in N/V symptoms and ability to be discharged to outpatient management only after the addition of a plan to treat her current psychiatric symptoms. Similar to the amelioration of vomiting, especially in hyperemesis gravidarum, seen after administration of 5-HT<sub>3</sub> antagonists (in this case, mirtazapine) noted in other case reports, this case suggests additional utility in the select use of SSRIs for control of intractable nausea and vomiting manifesting as psychosomatic symptoms during pregnancy.<sup>11,12</sup> This case highlights the importance of considering psychosomatic conditions in pregnant patients, developing robust biopsychosocial profiles, and integrating healthcare teams across diverse specialties to improve patient outcomes.

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