A Pregnant Woman Who Experienced Auditory Hallucinations Concurrent With Hyperemesis Gravidarum: A Case Report

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Case report

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Abstract

Background: We report the case of a pregnant woman who experienced auditory hallucinations only while suffering from hyperemesis gravidarum. To the best of our knowledge, the present report is the first report of a case of obvious auditory hallucinations in a pregnant woman who had not been diagnosed with any psychiatric disorder.

Case presentation: The patient was a 24-year-old pregnant woman who had not had a psychiatric disorder before. Two years prior to this admission, she became pregnant for the first time, and she was admitted to an obstetrics clinic due to severe hyperemesis gravidarum. Mild auditory hallucinations developed at the same time. After she gave birth, the auditory hallucinations disappeared. When she was 24 years old, she became pregnant again. She suffered from severe hyperemesis gravidarum from the early stage of pregnancy. At 20 weeks of pregnancy, she came to the Department of Psychiatry of our hospital for a detailed psychiatric evaluation and treatment because her moderate auditory hallucinations had relapsed. We administered an antipsychotic agent, perospirone, to treat her auditory hallucinations. The auditory hallucination disappeared, although the hyperemesis gravidarum persisted until childbirth. After childbirth, we discontinued treatment with perospirone, but her auditory hallucinations did not relapse.

Conclusion: The auditory hallucinations may have occurred as a result of some complicated biological factors and psychosocial factors. Physicians should carefully consider some psychotic symptoms, such as auditory hallucinations, not only in the postpartum period but also throughout the course of pregnancy.

Background

Perinatal psychiatric disorders, such as postpartum depression or puerperal psychosis, are well known [1, 2]. However, psychiatric symptoms rarely occur during pregnancy due to various factors [3]. We report a pregnant patient who experienced auditory hallucinations only while suffering from hyperemesis gravidarum. She had no underlying psychiatric disease. The patient gave written consent for the publication of this case report.

Case Presentation

The patient was a 24-year-old pregnant woman (20 weeks of pregnancy) who suffered from auditory hallucinations. Although she was naturally nervous, she had no history of psychiatric disorders. When she was 22 years old, she became pregnant for the first time. She was admitted to an obstetrics clinic in our hospital twice for severe hyperemesis gravidarum. Her family blamed her physical and mental fragility. After admission, mild auditory hallucinations developed and continued until delivery. After her first child was born, the auditory hallucinations disappeared spontaneously, and her mental condition remained stable.

When she became pregnant again at the age of 24 years, she developed general malaise, insomnia and vomiting during the early stage, as she had during the first trimester of pregnancy. Starting at 15 weeks of pregnancy, she heard the doorbell when there was no one at the door and her cellphone ringtone even though it was switched off. From 20 weeks of pregnancy, she started to hear a voice criticizing her actions, even though there was nobody nearby. Therefore, she visited the Department of Psychiatry in our hospital for a psychiatric evaluation and treatment. She seemed to tire easily; however, her communication was smooth and did not show evidence of thought disturbances. The malaise, insomnia and vomiting associated with the hyperemesis gravidarum persisted, but obvious depression and the loss of the sensation of pleasure were not observed. At the first visit, she was prescribed 5 mg/day zolpidem for her insomnia. The insomnia improved; however, the moderate auditory hallucinations persisted. Then, we administered 4 mg/day of an atypical antipsychotic agent, perospirone, to treat the auditory hallucinations. Subsequently, the frequency of the auditory hallucinations decreased. When the dose of perospirone was increased to 12 mg/day, her auditory hallucinations disappeared. In the final month of the pregnancy (36 weeks), her auditory hallucinations temporarily relapsed due to the increase in stress and anxiety. Then, when we increased the dose of perospirone to 16 mg/day, her hallucinations disappeared again. However, her hyperemesis gravidarum persisted. She safely gave birth at 39 weeks. After childbirth, we discontinued the perospirone. Her mental condition has been stable, and she has lived her daily life without a relapse of the auditory hallucinations.

Discussion And Conclusion

This patient, who had not been previously diagnosed with any psychiatric disorders, developed auditory hallucinations only during pregnancy. Although she suffered from hyperemesis gravidarum until she gave birth, her auditory hallucinations disappeared after she started taking an antipsychotic agent. After childbirth, her auditory hallucinations never relapsed, even though the medication was stopped. Based on her clinical course, she was diagnosed with a psychotic disorder due to another medical condition, according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition. We concluded that her transient auditory hallucinations developed only during pregnancy, and she was not diagnosed with a conventional psychiatric disorder. To the best of our knowledge, the present report is the first case of hyperemesis gravidarum in pregnancy acting as “another medical condition” causing transient auditory hallucinations.

It has been reported that human chorionic gonadotropin is a diagnostic marker of hyperemesis gravidarum, and free thyroxine levels are correlated with hyperemesis gravidarum [4, 5]. Furthermore, various other hormones, such as leptin, progesterone and adrenal cortical hormones, have been implicated in the etiology of hyperemesis gravidarum [6]. Changes in these hormones could have induced the transient excessive release of or hypersensitivity to dopamine in this case. It has been reported that the frequency of auditory hallucination is higher in female patients with schizophrenia than in male patients, and an association with changes in estrogen has been indicated [7]. Individual susceptibility or hypersensitivity to changes in female sex hormones could affect the development of psychiatric disorders during pregnancy. Furthermore, because the auditory hallucinations were immediately improved

after treatment with perospirone was initiated, the underlying mechanism could involve the excessive release of dopamine. Annagür et al. reported that the prevalence of any mood disorder was 14.9% and that of any anxiety disorder was 25.5% in women with hyperemesis gravidarum in the first trimester; however, this patient developed auditory hallucinations, and psychosis was not reported in that study [8].

The rate of depression during the first trimester of pregnancy is similar to that observed in the general female population, whereas the rates during the second and third trimesters are nearly double the rate in the general female population [3]. Recently, we reported that the period prevalence of depression during pregnancy is 14.0% in the second trimester and 16.3% in the third trimester in Japanese women [9]. Furthermore, it has been reported that the mean Edinburgh postnatal depression scale score was higher during pregnancy than during the postnatal period, and the severity and nature of the depressed mood were not observed to change after childbirth [10].

Personal characteristics and environmental factors are closely related to the onset and aggravation of hyperemesis gravidarum, and patients with serious cases of emesis gravidarum tend to develop various psychiatric symptoms [11]. We also suspected that psychosocial factors such as her original nervous disposition and inappropriate behaviors on the part of her family might have affected the development of auditory hallucinations when the hyperemesis gravidarum was aggravated in this case. In summary, we believe that the auditory hallucinations occurred as a result of the interaction of biological factors, such as changes in female hormones due to pregnancy or hyperemesis gravidarum, and psychosocial factors, such as her original nervous disposition and the lack of familial support.

We report the case of auditory hallucinations that developed in a healthy pregnant woman who had hyperemesis gravidarum. Doctors, especially obstetricians, who examine pregnant women should carefully monitor the onset of psychiatric symptoms such as auditory hallucinations during pregnancy because various factors could affect pregnant women's mental states.

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Written informed consent was obtained from the patient for the publication of this case report.

Availability of data and materials

All data generated or analyzed during this study are included in this published article.

Competing interests

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Authors' contributions

HO produced the initial draft including interpretation of the case findings. NYF and KS critically revised the draft. All authors read and approved the final manuscript.

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