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**Woman diagnosed with obsessive-compulsive disorder became delusional after childbirth: A case report**

Lin SS *et al.* Woman with OCD become delusional

Si-Si Lin, Jing-Fang Gao

**Abstract**

**BACKGROUND**

Obsessive-compulsive disorder (OCD) is a common mental disorder that varies greatly in manifestation and causes much distress to individuals. We describe a case in which a Chinese woman with OCD became delusional after childbirth, and discuss the possible phenomenological and psychological alterations.

**CASE SUMMARY**

A 27-year-old woman presented to the Psychiatry Department of our hospital with obsessions and compulsions. After taking medication, her symptoms were alleviated. Three years later, during her pregnancy, the obsessions returned and even progressed into paranoid delusions after childbirth. After multiple adjustments of treatment along with several fluctuations, she finally achieved remission and gained reasonable insight.

**CONCLUSION**

This case suggests that the patient with OCD appeared to move along a continuum of beliefs, and highlights the importance of effective intervention during pregnancy, which would exert a significant impact on postpartum exacerbation outcomes.

**Key Words:** Delusion; Obsession; Paranoid thinking; Perfectionism; Obsessive-compulsive disorder; Case report

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**Core Tip:** Obsessive-compulsive disorder (OCD) is a common mental disorder that varies greatly in manifestation and causes much distress to individuals. We describe a case that developed over a decade where a Chinese woman with OCD became delusional after childbirth, seriously affecting her marriage and parent-child relationship. We hope it can remind psychiatric practitioners to attach more importance to perinatal interventions for those who suffer from OCD.

## **INTRODUCTION**

<sup>12</sup> Obsessive-compulsive disorder (OCD) is characterized by obsessions or compulsions that are distressing and anxiety provoking. Researchers are now increasingly recognizing that OCD is a clinically heterogeneous disorder that varies greatly <sup>1</sup> in the specific content of obsessions and compulsions and has discrete subtypes<sup>[1]</sup>. Although the significant variability in the presentations of individuals creates difficulties for differential diagnosis of OCD, it also provides opportunities for research.

Here, we present the case of a woman who suffered marked anxiety and experienced a continuum of beliefs during the perinatal course of pregnancy, with obsessive beliefs eventually progressing into delusions and leading to secondary obsessions, which aroused our discussion and reflection. We describe the patient's symptom progression and treatment and discuss the possible underlying phenomenological and psychopathological alterations, hoping to remind psychiatrists to attach more importance to perinatal interventions for OCD.

## **CASE PRESENTATION**

### *Chief complaints*

A 27-year-old woman presented to the Psychiatry Department of our hospital with obsessions and compulsions

### *History of present illness*

A 27-year-old woman named Laura came to our clinic in 2009, stating that she was quite anxious due to preparing for the national postgraduate entrance exam. She gradually manifested the symptoms of feeling compelled to turn pages over and over again, to rearrange objects in order on her desk, and to repetitively check whether doors and lamps were closed before going out. She did not resist these behaviors or feel miserable, but these behaviors were quite time-consuming and obviously interfered with her studies. She sought help from a psychiatrist in our department. After finishing laboratory and imaging tests, which ruled out physical disease, as well as psychiatric interviews and psychological assessments [she scored 21 on the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), Obsession-7, and Compulsion-14; she scored 72 on the Self-rating Anxiety Scale (SAS)], she was diagnosed with OCD. The psychiatrist prescribed sertraline for her and titrated it up to 75 mg/d. The symptoms of compulsion were greatly relieved, and after reassessment, she obtained a total score of 7 on the Y-BOCS and 53 on the SAS. She adhered to the medication for 3 years.

In 2012, Laura got married. She wanted to stop the medication to prepare for pregnancy. Under the guidance of the psychiatrist, sertraline was gradually discontinued. Soon Laura found she was pregnant. After calculating the date of conception, she found that the time to conception was only three weeks after withdrawal, and she had drunk some beer and applied some ointment to treat nail inflammation after conception. Hence, Laura was worried that the fetus might be unhealthy and wanted to have an abortion, but her family discouraged this. Her husband thought these conditions would not affect the fetus. Her husband was an only child and his father was terminally ill. To enable his father to see his grandchild before he died, he insisted that Laura keep the baby despite her concerns.

She kept going to many departments of different hospitals and asking for all kinds of tests and examinations, but doubted all positive answers the doctors gave. She was quite sensitive during that period and increasingly believed the fetus would be unhealthy and should not be born. The idea that she might give birth to an unhealthy baby made her uneasy. She suffered from anxiety, irritability, and insomnia. Despite her complaints as well as strong demands for an abortion, she never attempted to injure the fetus in any way. She came to our department again [she scored 19 on the Y-BOCS, 75 on the SAS, and 55 on the Self-rating Depression Scale (SDS)]. We offered supportive psychotherapy and relaxation therapy in every follow-up during pregnancy, but the effect was not good. Considering that the patient was deeply tormented by the symptoms, we recommended medication treatment to her. She declined in view of possible adverse effects on the fetus. Ultimately, because no one gave permission for an abortion, the standoff lasted until the moment of delivery.

In March 2014, Laura gave birth naturally to a baby girl; no abnormalities were found in the physical examination after birth. However, she denied the results and insisted there was definitely something wrong with the baby. She thought it was wrong for her to bring an imperfect child into the world. She had a strong, overwhelming impulse to kill the baby and imagined all kinds of methods, such as strangling her or throwing her down the stairs. Three days after giving birth, her husband took the baby away for the sake of safety and brought the baby to the grandmother.

Laura came to us again, accompanied by her father, telling us she had given birth to an imperfect child; this thought tormented her frequently. She even planned to take the train to find the baby and kill her. Her family hid her ID card and was required to watch her around the clock. We reevaluated her, she scored 31 on the Y-BOCS and 71 on the SAS. Sertraline was administered again for almost 2 wk without any improvements. Taking her anxiety and insomnia into account, sertraline was discontinued, and fluvoxamine was introduced and quickly increased to 200 mg/d. Because of her agitation and insomnia, sodium valproate was introduced and added up to 0.5 g/d. After her mood was stabilized, sodium valproate was discontinued.

Meanwhile, Laura exhibited obvious somatic symptoms, such as headache, chest tightness, and shortness of breathing. After a general examination, no physical problems were detected. We switched medications by adding duloxetine and titrating it to 60 mg/d. Then, the somatic symptoms alleviated. She still insisted that her baby had problems and should not have been born, although the urge to kill her baby was not as strong or frequent as before. She felt incompetent at work after giving birth and changed to a different job. Her relationship with her husband had been strained since her pregnancy. In August 2015, a divorce judgment was finalized. The judge persuaded her that the child was innocent. At that moment, she felt what he said was reasonable, and there was no need to kill her baby. From then on, the impulse to kill her baby occurred much less, and she was not bothered by it. During follow-up visits, which normally took place every 3 to 4 wk, she stuck to the medication.

In 2016, Laura met her ex-husband by accident. He showed her a picture of the baby and expressed his desire to get back together. Moreover, Laura's aunt persuaded her to get back with him and sarcastically indicated that nobody would marry a divorced woman like her. She came to feel she was an imperfect woman because she had given birth to her daughter. She could not bear to let the baby become a reminder that she was an imperfect woman. The belief that the baby was problematic and the impulse to kill her relapsed. At this time, we discontinued duloxetine and introduced aripiprazole and quickly titrated it up to 25 mg/d. Her impulse to kill the child was greatly mitigated. She even came to realize that killing a child was against the law and she would be put in prison. She feared she would lose control and let the child be taken far away to avoid a possible encounter. After adding aripiprazole for 1 mo, she felt greatly relieved (she scored 15 on the Y-BOCS and 45 on the SAS). Aripiprazole and fluvoxamine were maintained for treatment.

### *Personal and family history*

Laura is an only child, outgoing and gentle, and mostly lived with her mother before she was 15, when her mother died of cancer. After that, Laura began to live with her

father, a businessman who was strong and stubborn. Her clothing style gradually became more androgynous, her personality slowly became stubborn and intolerant of uncertainty, and she tended to be a perfectionist and expected everything to be exactly right.

### **FINAL DIAGNOSIS**

Obsessive-Compulsive Disorder, with absent insight/delusional beliefs.

### **TREATMENT**

A 27-year-old woman named Laura came to our clinic in 2009, stating that she was quite anxious due to preparing for the national postgraduate entrance exam. She gradually manifested the symptoms of feeling compelled to turn pages over and over again, to rearrange objects in order on her desk, and to repetitively check whether doors and lamps were closed before going out. She did not resist these behaviors or feel miserable, but these behaviors were quite time-consuming and obviously interfered with her studies. She sought help from a psychiatrist in our department. After finishing laboratory and imaging tests, which ruled out physical disease, as well as psychiatric interviews and psychological assessments [she scored 21 on the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), Obsession-7, and Compulsion-14; she scored 72 on the Self-rating Anxiety Scale (SAS)], she was diagnosed with OCD. The psychiatrist prescribed sertraline for her and titrated it up to 75 mg/d. The symptoms of compulsion were greatly relieved, and after reassessment, she obtained a total score of 7 on the Y-BOCS and 53 on the SAS. She adhered to the medication for 3 years.

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## OUTCOME AND FOLLOW-UP

Her condition has been stable since then. She has no desire or impulse to kill her daughter any more. However, she still believes the child is not good enough and is imperfect, and that it was wrong to give birth to her. Moreover, she complained that her ex-husband did not respect her and just wanted to carry on his family line. She argued that a baby should bring hope and happiness to life, whereas this child made her miserable and led her to divorce. However, these thoughts no longer bothered her. After three years of persistently taking medication, she is now competent at her job and leads a stable life. Upon returning to visit in 2020, she scored 5 on the Y-BOCS and 39 on the SAS, and her relationship with her ex-husband improved. Now, she remarries her husband and lives with their daughter. She even plans to have a second child.

## DISCUSSION

In our case, Laura experienced a recurrence of OCD during pregnancy, which was exacerbated after childbirth. A few studies suggest that the perinatal period increases the risk for the development and deterioration of OCD in some women<sup>[2]</sup>. However, there are conflicting results. <sup>1</sup> The only prospective study on OCD in a community sample of pregnant women in the third trimester reported that of the 15 women (out of 434) identified with OCD, the vast majority experienced an improvement or no change in symptomatology during pregnancy and postpartum<sup>[3]</sup>. <sup>1</sup> In one study, 83% of the sample reported either an improvement or no change in pre-existing symptomatology during pregnancy<sup>[4]</sup>. <sup>1</sup> Hence, there is no clear picture regarding OCD onset and exacerbation in pregnancy and the postpartum period.

### *Anxiety and paranoid thinking*

In our case, Laura suffered increasing anxiety given her improper behaviors in the early stages of pregnancy. Her obsessions and compulsions were present, and she repetitively went to many departments of different hospitals to inquire about her concerns, but

doubted all positive answers she received and insisted there was something wrong with the fetus. It seemed that she had developed paranoid thinking about fetal abnormalities, similar to the hypochondriacal idea. Studies have found that paranoid thinking is associated with recent anxiety levels; anxiety is considered to predict or even cause paranoid thinking and lead to negative interpretations of ambiguous events<sup>[5-8]</sup>. Anxiety can result in negative anticipation, which in turn generates incredible ideas or beliefs and causes a change in one's perceived state. <sup>9</sup> The cognitive model of OCD suggests that <sup>3</sup> misinterpreting intrusive thoughts as unacceptable outcomes leads to increased anxiety<sup>[9]</sup>. In this framework, it is not the content of intrusive thought, but its interpretation that results in increased anxiety and preoccupation. A range of cognitive-affective processing biases are active in people with paranoid thinking<sup>[10]</sup>, and cognitive processes are mediators of the links between anxiety and paranoid thinking.

It was quite confusing whether Laura should initially be diagnosed with postpartum psychosis or OCD. It seemed that her symptoms conformed to both of the diagnoses. However, <sup>11</sup> according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, if an individual with OCD is completely convinced that his/her beliefs are true (which is considered a special subtype of OCD), <sup>8</sup> then the diagnosis of OCD with absent insight/delusional beliefs should be given, rather than a diagnosis of delusional disorder or postpartum psychosis. The revision seems to expand the diagnostic range of OCD based on symptomatology. Nevertheless, the paranoid thinking beneath delusion in our case is worth studying.

### ***Distinction of the continuum of beliefs in OCD***

There is increasing evidence that in the general population, each psychotic experience of an individual is manifested by a continuum of features. In our case, during the perinatal period, Laura's obsessions recurred and were exacerbated; at first, she repetitively went to many departments of different hospitals to inquire about her concerns but doubted all positive answers she received, and she was almost completely convinced that the fetus was abnormal. After delivery, she strongly believed she had given birth to an

unhealthy child, regardless of the examination results, and even felt a strong impulse to kill her daughter, which reflected irrationality and absurdity. Her belief was delusional, and her insight was absent. Her strong impulse to kill her baby was secondary to delusional belief.

Beliefs play an ambiguous role in OCD. The characteristics of beliefs vary widely along the continuum, and delusions seem to be at the severe end of the spectrum. Delusions refer to beliefs held with conviction and subjective certainty in light of conflicting evidence <sup>[11]</sup>. Overvalued ideas are “unreasonable and sustained beliefs that are associated with strong affect (e.g., anxiety or anger) and are more likely to lead to repeated action that is considered justified.”<sup>[12-13]</sup> According to Kozak and Foa<sup>[12]</sup>, overvalued ideas lie on a continuum of “strength of belief” between OCD-related, non-delusional beliefs and delusions. Obsessions are recurrent and persistent thoughts, urges, or images experienced as intrusive and unwanted. The distinction between a delusion and obsession depends in part on the degree of conviction with which the belief is held, despite clear contradictory evidence regarding its correctness. However, this is not always effective. One study<sup>[14]</sup> proposed an approach in which beliefs arising in the context of OCD are assessed along the following well-defined characteristics: conviction, fixity, fluctuation, resistance (to beliefs), insight pertaining to an awareness of the inaccuracy of one’s belief, and insight referring to the ability to attribute the belief to an illness, which may allow for a clearer distinction between non-delusional beliefs, overvalued ideas, and delusions. In addition, emerging empirical evidence suggests that obsessions and delusions might not be mutually exclusive. In the literature on body dysmorphic disorder and eating disorders, Phillips *et al*<sup>[15]</sup> concluded that non-delusional and delusional variants of both disorders likely constitute a single disorder containing a range of insights, with an entire spectrum characterized by obsessions. This insight can range from good (obsessions) to bad (overvalued ideas) to absent (delusions). Therefore, it is reasonable to speculate that Laura experienced an alteration of the continuum of belief, from obsessions to delusions, and that delusions and even

secondary obsessions coexisted, which had a significant impact on her parent-child relationship and marital status.

### *Perfectionism and anxiety in OCD*

Many individuals with OCD have dysfunctional belief domains. <sup>3</sup> In the cognitive model, three types of intermediate beliefs have been hypothesized to contribute to obsessive-compulsive symptoms, one of which is perfectionism and the intolerance of uncertainty. Perfectionism, typically defined as setting extremely high standards along with critical evaluations of one's own behavior<sup>[16]</sup>, has long been regarded as a risk and maintenance factor for OCD and robustly associated with anxiety<sup>[17]</sup>. In our case, Laura experienced excessive and marked anxiety during pregnancy in fear of fetal abnormalities, which interacted with her perfectionism, leading to obsessions and compulsions. She even felt a strong urge to do away with her "imperfect" child after childbirth to reduce anxiety and maintain her own sense of perfection. After taking medication, her obsessions and paranoid delusions underwent several fluctuations, and she finally entered a state of remission. Data indicate <sup>6</sup> that high levels of perfectionism impede treatment responses across different psychopathologies, and treatment of perfectionism results in a reduction in symptoms, including anxiety<sup>[18-19]</sup>. Therefore, perfectionism may be a promising area regarding cognitive interventions for OCD. <sup>6</sup> It is hoped that such a focus will help to improve the efficacy of treatment for OCD and potentially reduce a potent risk of exacerbation, especially for perinatal women in avoidance of potentially adverse effects on fetuses if taking medicine. We suggest that psychiatrists routinely assess and address perfectionism in OCD, aiming to alleviate symptoms and avoid the exacerbation of OCD.

### **CONCLUSION**

We reviewed the literature in terms of anxiety and paranoid thinking, as well as perfectionism, and tried to analyze the alterations and distinctions of a continuum of belief in OCD in the perinatal and postpartum periods. The patient developed OCD

over a decade, and it seriously affected her marriage and parent-child relationship. We hope this case will remind psychiatric practitioners to attach more importance to perinatal interventions for those who suffer OCD given a range of adverse maternal and fetal developmental outcomes. Due to the great heterogeneity in the clinical presentation of OCD, we hope we will make a major breakthrough in etiology and treatment research on OCD.

### **ACKNOWLEDGEMENTS**

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