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Recurrent Unperceived Pregnancies and Unbooked Deliveries Presenting in Labor to the Emergency Department: A Case Report

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Abstract

We report the case of a Japanese woman who experienced two episodes of unperceived pregnancy with unbooked delivery, separated by an interval of seven years. At the age of 25 years, she visited the emergency room (ER) unaware of her pregnancy; a computed tomography scan revealed a fetus, confirming the pregnancy, and she subsequently delivered a 2620-g baby boy in the delivery room on the same day (estimated gestational age, 36 weeks 0 days, by biparietal diameter). Seven years later, at the age of 33 years, she again visited the ER by ambulance, still unaware of being pregnant; on arrival, her cervix was fully dilated, and she delivered a 2454-g baby girl in the delivery room (estimated gestational age, 35 weeks 6 days, by the last menstrual period). Both children have since been growing up healthy. She appeared to have several high-risk background factors conducive to unperceived pregnancy, including irregular menstruation, unstable relationships, borderline intellectual functioning, and a somewhat unstable financial situation.

Keywords

Unperceived Pregnancy, Unbooked Delivery, Recurrent, Reproductive Mental Health

1. Introduction

Historically, cases in which women state that they were unaware of their preg-

nancy until labor or delivery have been described as denial of pregnancy or concealed pregnancy. Denial of pregnancy has been conceptualized as a psychological defense mechanism against the anticipated negative consequences of pregnancy [1], whereas concealed pregnancy has been understood as a coping strategy primarily driven by fear and the wish to hide the pregnancy [2]. Because these concepts partially overlap and terminology has been inconsistent, several authors and international working groups have proposed the broader term "unperceived pregnancy" to encompass such situations.

Unperceived pregnancy refers to a condition in which a woman remains unaware of her pregnancy until the third trimester or the onset of labor, despite having physical signs that would usually allow the pregnancy to be recognized [3]-[5]. Population-based studies have estimated that unperceived pregnancy occurs in approximately one out of every 300 to 475 pregnancies [3] [4], and that pregnancies remaining undiscovered until delivery occur in about one out of every 2455 births [6]. Because these women are unaware of their pregnancy, they typically do not receive prenatal care or modify their lifestyle, thereby placing the fetus at risk. Moreover, as unperceived pregnancy is poorly understood by the general public and even by health professionals, affected women may be confronted with prejudice and stigmatization [5].

Women with unperceived pregnancy either do not experience typical pregnancy-related symptoms or attribute such symptoms to causes unrelated to pregnancy. The condition has been interpreted as a dissociative phenomenon and, in rare cases, may occur as part of an acute psychotic disorder accompanied by delusions [4] [6]. In some women, pregnancy-related physical changes such as weight gain may be minimal or not recognized, even by close relatives, which makes the situation appear unique and incomprehensible. Denial may function as a psychological defense mechanism that protects the woman from anticipated negative consequences associated with pregnancy [1] [6].

When a woman is unaware of her pregnancy, the onset of labor is frequently mistaken for severe menstrual cramps, food poisoning, or acute lower abdominal pain. Giving birth without any assistance and without timely activation of emergency medical services can place both maternal and neonatal lives at risk [7]. Because the pregnancy is not recognized, the urge to push is often misinterpreted as a need to defecate, and delivery may occur on the toilet [8]-[10]. These women fail to recognize labor and have difficulty accurately understanding the unfolding situation [11]. As a result, they are at increased risk of preterm birth, severe obstetric hemorrhage, and, in the worst case, neonaticide [4].

In parallel, unbooked pregnant women who present in labor without having received prenatal care are known to have higher rates of accidental complications and adverse maternal and fetal outcomes. Reported rates of unbooked deliveries vary widely between countries and clinical settings, but studies have consistently described increased obstetric complications and perinatal morbidity and mortality among women who have not attended prenatal care [12] [13].

Even in recent reviews of unperceived pregnancy [5] [14] [15], only a single case of recurrent unperceived pregnancy has been described. Our case demonstrates that unperceived pregnancy may recur even after a first unbooked delivery, despite presumed increased awareness of the risks. In the present report, the patient was completely unaware of her pregnancy on both occasions and only learned that she was pregnant after labor had begun and she had been examined at the emergency department. We describe how rapid and appropriate multidisciplinary management allowed both deliveries and neonatal care to be conducted in a manner closely resembling standard obstetric care.

2. Case Report

The patient was a 25-year-old single Japanese woman with no history of mental illness and no habitual depressive symptoms. She had graduated from high school but had reportedly failed the written test for a standard driver's license multiple times, and in the end, she was unable to obtain a driver's license. After graduation, she worked full-time at a convenience store. She lived with her mother and had no one else to turn to for advice. She had no savings but was not in particular financial difficulty. Her body mass index was 26.3 kg/m^2. She had a history of irregular menstruation, with menses occurring every 2 to 3 months. During the period when she was presumed to have been pregnant, she continued to experience menstruation-like bleeding at 2- to 3-month intervals. She was unaware of the pregnancy and was not in a stable relationship with the partner at the presumed time of conception. There was no family history of very late recognition of pregnancy. She was not using contraception, including oral contraceptive pills.

In 20XY, this 25-year-old woman, gravida 1 para 0, who was unaware that she was pregnant, presented on foot to the emergency room (ER) at 12:00 with complaints of constipation and lower abdominal pain. She reported a 2-week history of constipation and worsening lower abdominal pain since that morning. On abdominal examination, the ER physician palpated a hard, mass-like lesion in the lower abdomen. The physician ordered a non-contrast computed tomography (CT) scan, but a fetus was identified on the scout image (**Figure 1**). The CT scan was immediately discontinued, the ER physician told the patient, "You are pregnant. The fetus is quite large, and the abdominal pain might be labor contractions. Let's have an obstetrician examine you right away." And an urgent obstetric consultation was requested. She had long-standing oligomenorrhea, with menses occurring once every 2 to 3 months, and her last menstrual period was uncertain. At 13:20, approximately 80 minutes after arrival, the obstetrician examined her and found that the cervix was dilated to 5 - 6 cm, with the fetal head at station −2, and the cervix was moderately effaced (50%), softened, and mid-position. Because she had received no antenatal care and her last menstrual period was unknown, gestational age at admission was estimated by ultrasound biometry. Transabdominal ultrasound image was performed while labor was present. The fetal biparietal diameter (BPD) was 87 mm (as shown in **Figure 2**), corresponding to a gestational

age of 35 weeks and 6 days according to standard reference charts. Labor had already begun, and imminent delivery was anticipated.

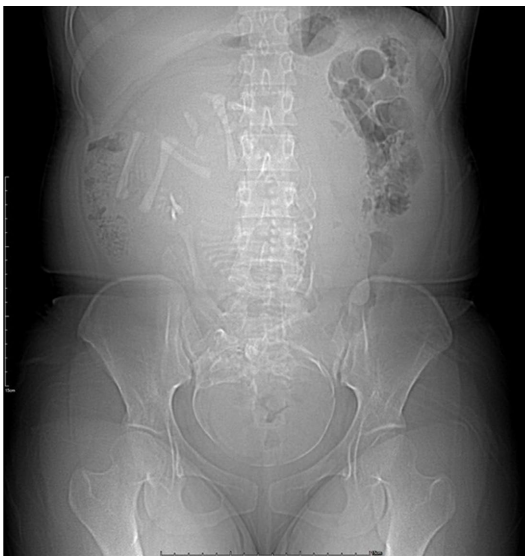

Figure 1. A fetus was identified on the scout view.

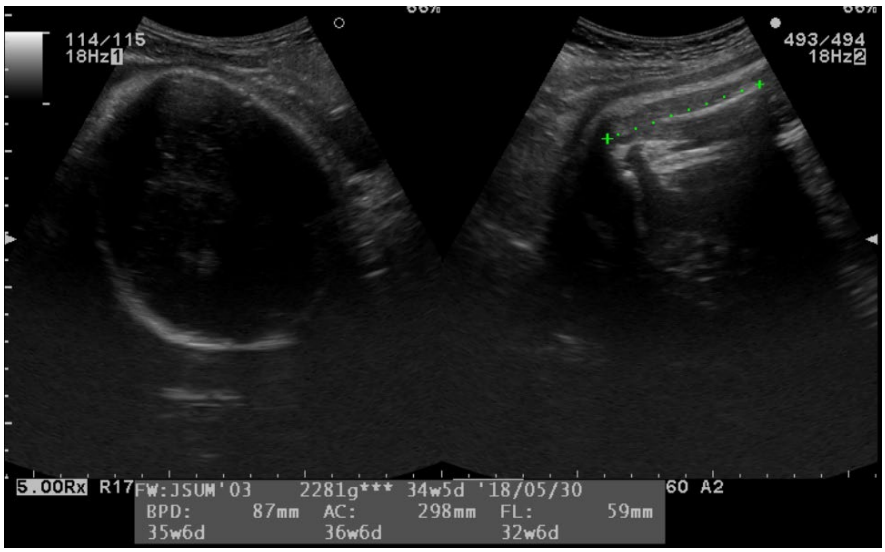

Figure 2. Transabdominal ultrasound image performed. The fetal biparietal diameter was 87 mm, corresponding to a gestational age of 35 weeks and 6 days according to standard reference charts.

Because she was an unbooked pregnant woman with no prenatal infectious disease screening, she was transferred to a second delivery room that was not used for routine deliveries. At 15:40, the cervix was almost fully dilated. There was mild malrotation, with the sagittal suture in a transverse orientation, so augmentation of labor with an oxytocin infusion and maternal repositioning to bring the fetal back anteriorly were planned. At 16:44, after a mediolateral episiotomy, a male neonate weighing 2620 g was delivered by vacuum extraction. Apgar scores were

9 at 1 minute and 10 at 5 minutes. Umbilical arterial blood gas analysis showed a pH of 7.369 and a base excess of −4.5 mmol/L. The episiotomy wound was repaired under local anesthesia with 1% lidocaine, using 2-0 Vicryl Rapide® sutures. All maternal infectious disease screening results were negative. Although both infants were examined by a pediatrician immediately after delivery, no neonatal malformations or delivery-related complications were observed.

After receiving postpartum health education that could not be provided during pregnancy, the patient and her baby were discharged 5 days after delivery without complications. They attended routine checkups at 2 weeks, 1 month, and 4 months postpartum, and Edinburgh Postnatal Depression Scale scores were within the normal range at each visit. Furthermore, the infant has shown any signs of mental or developmental abnormalities during the routine pediatric standard check-ups in Japan up to now.

Approximately 6 years after the birth of her first child, she met a new partner and had occasional sexual intercourse but continued to use no contraception. Seven years after the first delivery, at the age of 33 years (gravida 2 para 1), she again remained unaware of her pregnancy. She awoke at 6:00 with lower abdominal pain that rapidly worsened, and she called an ambulance at 8:30. The ambulance arrived at 9:00. During transport, the paramedic contacted our hospital. An ER nurse reviewed her electronic medical record, noted her previous unattended delivery, strongly suspected an unbooked pregnancy, and asked an obstetrician to stand by in the ER. At 9:30, the patient arrived at the ER. The obstetrician examined her and confirmed that the amniotic membranes had ruptured completely, the cervix was almost fully dilated, and the fetal heart rate was normal. Because labor had clearly begun, spontaneous rupture of membranes had occurred, and delivery was considered imminent, she was transferred directly to the second delivery room without ultrasound examination, as prenatal infectious disease testing had not been performed. At 9:45, full cervical dilation was confirmed. At 9:52, she delivered a female neonate weighing 2454 g. Apgar scores were 9 at 1 minute and 10 at 5 minutes. Umbilical arterial blood gas analysis showed a pH of 7.249 and a base excess of −5.0 mmol/L. Based on a detailed postnatal interview, the first day of her last menstrual period was estimated to be at the end of February 20XY + 6, corresponding to a gestational age at delivery of 36 weeks and 0 days, because there was no time for ultrasound measurements. A second-degree perineal laceration was repaired under local anesthesia with 1% lidocaine using 2 - 0 Vicryl Rapide® sutures. After receiving postpartum health education that could not be provided during pregnancy, the patient and her baby were discharged 5 days after delivery without complications. They attended checkups at 2 weeks, 1 month, and 4 months postpartum, and Edinburgh Postnatal Depression Scale scores were within the normal range at each visit. In this time, all maternal infectious disease screening results were also negative. Although both infants were examined by a pediatrician immediately after delivery, no neonatal malformations or delivery-related complications were observed. Furthermore, neither infant has

shown any signs of mental or developmental abnormalities during the routine pediatric standard check-ups in Japan up to now.

During preparation of this case report, we reconfirmed, through a detailed interview, that the patient had not been unaware of her pregnancies due to intentional concealment or deliberate non-attendance at prenatal check-ups because of busyness, poverty, or other social reasons. In the interview conducted to obtain written informed consent for publication, she stated that she had been unmarried at the time of both pregnancies and deliveries, and that she had experienced irregular menstruation since menarche, with menses occurring only once every 2 to 3 months. Although the frequency of sexual intercourse with each partner was low, she understood that sexual activity could result in pregnancy. She attributed her abdominal enlargement to weight gain and believed that the sensations she later recognized as fetal movements were merely bowel movements. It was again confirmed that she had not intentionally concealed either pregnancy.

3. Discussion

In a prospective case-control study, Delong *et al.* [14] reported that women with pregnancy denial were more likely to be younger, not in a stable relationship, to lack a high school diploma, and to have a history of psychiatric disorders, whereas older age was protective. Other contextual factors included socioeconomic precarity and contraceptive use at the time of conception. In our case, the patient was unmarried and did not report a stable partner; moreover, the fathers of her two unperceived pregnancies were different, which is consistent with the "non-stable partnership" profile previously described. She worked at a convenience store and had no savings, suggesting economic vulnerability. Although she had graduated from high school, she reportedly failed the written test for a standard driver's license multiple times. Taken together, these features suggest that our patient's life context substantially overlaps with the at-risk profile identified in previous case-control studies on pregnancy denial and unperceived pregnancy [16].

A review of the literature revealed only one case involving two instances of unperceived pregnancy and delivery; however, the interval between the deliveries was not reported [5]. It can be assumed that women who have previously experienced unperceived pregnancy and delivery become familiar with the sensation of fetal movement, and that this memory may help them to recognize a subsequent pregnancy earlier. In the present case, however, approximately seven years elapsed between the first and second deliveries. It is therefore plausible that the patient's memory of what fetal movement felt like had faded over time, which may have contributed to a second episode of unperceived pregnancy and unbooked delivery.

The current literature distinguishes psychotic and non-psychotic forms of pregnancy denial. Within the non-psychotic group; three subtypes: affective, pervasive, and persistent denial [16]. In pervasive denial, which is considered the typical pattern in non-psychotic "cryptic pregnancy" or "unperceived pregnancy", the woman interprets classical signs of pregnancy, such as amenorrhea, weight gain,

and even fetal movements, as being due to other physical or situational causes. As a result, she remains unaware that she is pregnant until late in the third trimester or the time of delivery [4] [17] In our case, the same woman gave birth on two occasions, seven years apart, without having received any prenatal care. On both occasions, she was unaware of her pregnancy and retrospectively reported that she had interpreted abdominal distension as weight gain, fetal movements as bowel activity, and amenorrhea as a consequence of long-standing menstrual irregularity. These features are highly consistent with pervasive, non-psychotic denial in the sense of unperceived pregnancy.

From a health-systems perspective, the present case also highlights the distinction between structural access to care and effective use of services. In Japan, antenatal care is largely covered by public funding within a universal health insurance system, and pregnant women are generally able to attend scheduled checkups at relatively low out-of-pocket cost. In addition, our hospital is located within a short driving distance from the patient's home, indicating that both geographical and financial access to maternity care were reasonably good in this case. Despite this favorable structural context, however, the patient remained completely unbooked in both pregnancies and presented directly in labor without any prior antenatal visits. This paradox illustrates that "access" to antenatal care cannot be reduced to physical proximity or financial affordability alone. Rather, it also depends on the woman's recognition of the pregnancy and on her health literacy, including her ability to correctly interpret bodily changes as possible signs of pregnancy and to understand the need for early maternity care. In our patient, abdominal enlargement was attributed to "being overweight", fetal movements were understood as "bowel activity", and amenorrhea was explained by long-standing menstrual irregularity, suggesting that limited awareness and misinterpretation of pregnancy-related symptoms played a central role in her failure to seek care, despite adequate structural access to services [18].

From a clinical perspective, such cases should not be regarded merely as isolated and unusual events. Rather, they underline the importance of long-term follow-up and anticipatory guidance for women who have experienced a denied, cryptic, or unperceived pregnancy. This includes counselling about the possibility of recurrence and proactive support in the event of future conception. For obstetric teams, previous pregnancy denial should be considered a risk factor in subsequent pregnancies, and systems should be put in place to facilitate early contact and tailored antenatal care when these women re-present to service [17].

Unbooked pregnant women who present in labor without having received prenatal care are known to have increased risks of preterm birth, fetal compromise, and adverse maternal outcomes, including severe obstetric hemorrhage [12] [13], In the present case, although the exact gestational age was uncertain at the time of admission, both neonates were relatively mature and of appropriate birth weight, and labor progressed rapidly without major complications. The prompt response upon arrival at the hospital allowed both deliveries to take place in a delivery room,

with the presence of a midwife, an obstetrician, and neonatal staff, in a manner similar to standard deliveries. Although relevant infectious disease screening and other routine tests had not been performed during pregnancy and were only obtained at the time of delivery, no evidence of maternal infection or major neonatal morbidity was found. This suggests that, when unperceived pregnancy is recognized promptly at the time of labor, rapid multidisciplinary intervention can mitigate some of the risks typically associated with unbooked deliveries.

4. Conclusion

We report the case of a Japanese woman who experienced two episodes of unperceived pregnancy with unbooked delivery, separated by an interval of seven years. At the ages of 25 and 33 years, she visited the emergency room because of abdominal pain and was found to be pregnant; on the same day in each episode, she delivered a live infant, and both children have been growing up healthily. She appeared to have high-risk background factors that could lead to unperceived pregnancy, such as menstrual irregularity and unstable relationships. These findings highlight the need for clinicians to be aware that unperceived pregnancy can recur and to recognize risk factors in women presenting with acute abdominal pain.

Consent

Written informed consent was obtained from the patient before writing this case report.

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Ethical Approval

The ethical approval of our hospital was obtained the ethical committee before writing this case report (ethical approval no. 260062603).

Author Contributions

Conceptualization, Niwa, Kenji and T. T.; Investigation, Niwa, Kenji, T. S., K. C., Niwa, Kentaro, N. A., M. T.; Writing—original draft preparation, Niwa, Kenji, Writing—review and editing, Niwa, Kenji and T. T.; Supervision, T. T. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Abbreviation

Emergency Room, ER
Computed Tomography, CT
Biparietal Diameter, BPD