

증례

심각한 약물중독으로 내원한 38주 산모에게 실시된 응급제왕절개술 1례

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Emergency Cesarean Section Rescue of a Fetus from Maternal Severe Drug Intoxication

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Herein, we report a case of emergency cesarean section after severe maternal drug intoxication in late pregnancy. At a 38-week-gestation, a 32-year-old woman with a 10-year history of bipolar disorder took olanzapine (200 mg), diazepam (20 mg), and zolpidem (200 mg) as part of a suicidal attempt. Given her unconscious state and the evident concern regarding the toxic effects of the drugs on the fetus, a cesarean section was performed immediately. The patient gave birth to a male baby with Apgar scores of 5 at 1 and 8 at 5 minutes. The baby showed dyspnea and decreased activity directly after birth. After supportive care, the condition of both mother and baby improved and both were discharged.

Key Words: Olanzapine, Poisoning, Cesarean section, Pregnancy

INTRODUCTION

Many drugs ingested by the mother cross the placenta and can potentially damage the fetus at various stages of gestational development. Several poisonings of the mother may lead to fetal death¹⁾. Olanzapine, zolpidem, and diazepam also can cross placenta and maternal intoxication of those drugs may affect fetal reactivity and birth asphyxia²⁻⁴⁾.

Herein, we report a case of an emergency cesarean section for severe drugs intoxication in late pregnancy. The neonate showed dyspnea and decreased activity directly after birth, but after supportive care,

the condition of both mother and baby improved and both were discharged.

CASE REPORT

At a 38-week-gestation, Ms L. took olanzapine (200 mg), diazepam (20 mg), and zolpidem (200 mg) for a suicide attempt after a dispute with her husband. She was found in her house with unconsciousness and vomiting 12 h after intoxication. She was sent to the emergency medical center at Soonchunhyang university cheonan hospital 22 h after intoxication.

she is a 32-year-old woman with a 10-year history of bipolar disorder, according to DSM IV criteria. She was treated regularly with medications before pregnancy and had been given information about the risks and benefits of medications of bipolar disorder directly after pregnancy. For the safety of the fetus,

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she and her husband decided to stop her medication. Thereafter, her depressive mood was severely aggravated and she began to show signs of irritability and anxiety. Other medical history showed negative for respiratory, hepatic, renal, and other systemic disease, as well as alcohol consumption and smoking.

She was unconscious with a Glasgow coma scale of 6/15(E1/4, V1/5, M4/6). Her airway was intact and respiration was spontaneous. After arrival, vomitings was presented and oropharyngeal airway was applied. Vital signs were as follows: temperature 37.3 °C; pulse 96 beats/min; respiration 20 breaths/min; blood pressure 120/80 mmHg. Other physical examinations showed normal, except for the abdominal protrusion. Initial ultrasonography operated by emergency physician showed that fetal heart beat was 110 beats/min.

Because we were concerned about ongoing toxic effects of the medications upon the fetus and slow fetal heart rate and also concerned about continued maternal unconsciousness and high risk of maternal respiratory depression and hypotension, an emergency cesarean section was performed two hour after admission.

She gave birth to a male neonate with an Apgar scores of 5 at 1 and 8 at 5 minutes. The baby showed dyspnea and decreased activity. After bag-valve-mask bagging and O₂ supply (5 l/min, head box), dyspnea improved. The baby weighed 2720 g. Cryptorchidism and renal pelviectasis were evident. The baby was sent to an intensive care unit because of the low Apgar score and dyspnea. After supportive care, the child's condition improved.

For a while, she showed confusion after the cesarean section but regained full lucidity 7 days later. Once stable, she was discharged without any suicide ideation. Ten days thereafter, the baby did not showed irritability and withdrawal symptom and he was discharged in a healthy state. After one year, the baby was also healthy.

DISCUSSION

While suicide attempts are lower during pregnancy

than in the general population of women, suicide ideation during pregnancy is higher than in the normal population of women^{5,6}. The rate of maternal mortality is 9~13% in women who attempt suicide⁵. A report showed that women attempting suicide during pregnancy were at an increased risk for preterm labor, cesarean delivery, lower birth weight, and respiratory difficulty⁷.

In the present case, she suffered from an ongoing bipolar disorder of 10 years. She stopped medication for fear of toxic effects to fetus, but the discontinuation aggravated her symptoms and lead to a suicide attempt. A careful balancing of maternal and fetal health is paramount in treatment of bipolar disorder during pregnancy.

Olanzapine is an atypical antipsychotic drug and can be prescribed for bipolar disorder. Olanzapine can cross placenta and may affect to fetus⁴. And some report showed the olanzapine is related to congenital abnormality^{8,9}. However, most studies showed that use of olanzapine in pregnancy is relatively safe and do not increase fetal teratogenic risk under normal use¹⁰⁻¹². There are a case report of olanzapine overdose during pregnancy was found, whereby no complications occurred from the overdose or the treatment from week 16 of gestation to delivery¹³.

Zolpidem is a short-acting nonbenzodiazepine hypnotic that potentiates gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter, by binding to gamma-aminobutyric acid (GABA) receptors at the same location as benzodiazepines¹⁴. The diazepam is a psychoactive drugs with varying hypnotic, sedative, anti-anxiety, anticonvulsant, muscle relaxant, and amnesic properties, which are mediated by slowing down the central nervous system^{15,16}. Zolpidem and diazepam can cross the human placenta and may show nonreactive non-stress test and decreased Apgar score of fetus^{2,3}. Diazepam when taken during late in pregnancy, the third trimester, causes a definite risk of a severe benzodiazepine withdrawal syndrome in the neonate with symptoms including hypotonia, and reluctance to suck, to apnoeic spells, cyanosis, and impaired metabolic responses to cold

stress¹⁷⁾.

The cesarean section is not generally performed for drugs intoxication. But in a full-term pregnancy, it is suggested that immediate cesarean section may be a choice of treatment for intoxication of fetus. It is not clear that cesarean section can be performed on purpose to prevent from fetal ongoing toxic effects or should be performed only in the fetal distress. To our knowledge, this is the rare reported case of cesarean section for severe drug intoxication in late pregnancy and as such, requires more study about rescue method for rescue a fetus from maternal intoxication.

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