CASE REPORT

Intrauterine death at term in a cocaine user detained under the Mental Health Act

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SUMMARY

We report the case of a 31-year-old woman who presented at 23 weeks gestation following a mixed overdose of medication. She was detained under the Mental Health Act 1983/2007 for ongoing suicidal ideation and heavy cocaine use. She had a normal nuchal scan, and unremarkable anomaly and growth scans at 19, 29, 32 and 34 weeks. At 40 weeks, an ultrasound scan confirmed fetal demise. A macerated male stillborn was delivered by forceps. Women with mental health and substance misuse problems may have reduced awareness of fetal movements, and they may be poor historians or frequent attenders for non-specific symptoms. It is crucial that these factors do not influence the ability of clinicians to thoroughly investigate symptoms and promptly identify obstetric complications.

implications of psychiatric risk factors in her pregnancy and suggest some important learning points.

CASE PRESENTATION

A 31-year-old woman at 23 weeks gestation presented to accident and emergency, following a mixed overdose of medication, which she took in response to a voice instructing her to end her life.

She described feeling depressed and expressed ongoing suicidal ideation.

This was known to be her eighth pregnancy, with six recorded medical terminations and an emergency caesarean section in 2004, for failure to progress, following an otherwise uncomplicated pregnancy, where she gave birth to a live baby boy who she has since been allowed to visit under supervision only.

Her complex psychiatric background included multiple admissions under the Mental Health Act for medication overdoses, deliberate self-harm and depression with psychotic features. She admitted to using cocaine regularly for the past decade, including throughout her pregnancies. She was clinically obese (body mass index 36 kg/m²). She was hepatitis B, cytomegalovirus and HIV negative at booking, as well as rubella immune.

At her midwifery booking appointment at 9 weeks gestation, she denied smoking but reported ongoing cocaine use. On this occasion, the risks and benefits of vaginal birth and repeat caesarean section were discussed and she was deemed to have capacity to make this decision herself. Unfortunately, she was not in contact with any immediate family members and she chose not to share information regarding her pregnancy with any relatives. Her partner, the father of her unborn child, was also a psychiatric inpatient and was admitted in another hospital under a forensic section of the Mental Health Act. Because of this, his involvement in the decision-making surrounding the pregnancy was extremely limited.

After careful discussion with the obstetric team, our patient was planned to have a vaginal birth after having had a caesarean section, and was planned to have induction of labour at 40 weeks gestation if she had not yet gone into labour. A referral to a specialist perinatal mental health team was made. Throughout her pregnancy, she continued to use propranolol 50–150 mg daily for severe migraines, sertraline 200 mg daily for depression, quetiapine 100 mg daily for mood stabilisation, as well as Zopiclone and Promethazine, as required.

Her dating scan at 13+1/40 was unremarkable, and a combined test showed that she was low risk

BACKGROUND

The relevance of psychiatric and substance misuse problems in pregnancy is increasing. It has been estimated that 1% of pregnant women have a substance misuse problem and a further 1% abuse alcohol.¹ It is likely that a much larger cohort of women with substance misuse problems remains unrecognised.

In the UK, in 2010–2012, 16.8% of women who died had a pre-existing mental health problem, and 7.5% had a pre-existing substance misuse problem: a rate of 0.60/100 000 maternities.² This is higher than the mortality rates for direct obstetric causes such as genital tract sepsis, haemorrhage and preeclampsia.

Among women who had a stillbirth, 4.4% had a pre-existing psychiatric disorder and 2.6% had a substance misuse problem in pregnancy.³ These figures are greater than the maternal prevalence of diabetes, cardiac and renal diseases implicated in stillbirth.

These alarming statistics highlight the importance of identifying women in the antenatal period who are at risk of developing mental health and substance misuse problems. It is crucial that an individualised management plan is then formulated, accurately documented and communicated effectively with all professionals involved in their care.

In this brief report, we describe the case of a woman with long-standing psychiatric problems who unexpectedly had an intrauterine death at 40 weeks gestation, following an admission under the Mental Health Act. In a retrospective analysis of her medical documentation, we discuss the

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for trisomy 13, 18 and 21. She did not attend her antenatal clinic appointments, which had been booked for her at 20/40 and at 22/40.

On arrival to accident and emergency at 23/40, she initially agreed to be admitted voluntarily to an inpatient psychiatric ward. It soon became apparent that she had been self-harming and abusing cocaine during her unescorted leave, raising significant concerns for both herself and the unborn child. Following an episode where she did not return from leave and had consumed large quantities of cocaine, she was detained under the Mental Health Act sections 2 and 3. It was decided that her baby be taken into foster care when born.

During this admission, she presented to our perinatal services at 33/40 reporting vomiting. She denied abdominal pain or vaginal loss, her cardiotocography was normal and she was discharged. She was seen in antenatal clinic the following day, where the documented plan was to review the patient and repeat an ultrasound scan (USS) at 36 weeks.

She represented at 34+2/40 reporting reduced fetal movements for 2 days. She was admitted for continuous monitoring to the labour ward. On this occasion, she admitted to having consumed cocaine that week, though it was unclear how this was possible under psychiatric inpatient supervision. She was discharged back to the psychiatric ward the following day, following a normal USS and normal fetal movements. It appears that, in view of an additional scan having been performed at 34+4/40, the scan that was originally planned for 36/40 gestation no longer took place. A consultant appointment and growth scan had been planned for 36 weeks, however, these were cancelled once the patient had been monitored and reassured at 34 weeks. This was a critical mistake as this would have been a crucial point to identify an intrauterine growth restriction (IUGR).

The patient was reviewed by her midwife at 37+2/40, where she reported feeling well and having good fetal movements. She was reviewed again at 39+1/40 and observations were found to be reassuring.

At 39+9/40, following a day of agreed leave to her family home, she returned to the ward reporting diarrhoea and mild abdominal pain. There was no history of rupture of membranes. The following morning, she was taken to the maternity department for a cervical sweep to facilitate labour. On this occasion, her midwife was unable to auscultate a fetal heart beat. A USS revealed fetal demise, anhydramnios with mild ascites and reduction in abdominal circumference growth velocity. There was evidence of IUGR that had not been previously noted.

The patient agreed to have induction of labour. Eighteen hours later, a 2900 g macerated male stillborn was delivered by forceps. The placenta was sent for histology, however, the patient declined a fetal postmortem. She returned to the psychiatric ward, where she remained for a further month.

INVESTIGATIONS

After delivery, placental examination revealed a small singleton placenta with a trimmed weight of 227 g (expected trimmed weight at 40 weeks: 490±90 g). The placenta/fetus ratio was 1:12.78 (expected for age 1:6.8). Microscopically, the placental parenchyma was found to be composed of dysmature, poorly branching and discontinuously oedematous villi. Vascular collapse, haemorrhagic endovascularitis and chorioangiomas were noted, in keeping with maternal glucose intolerance or diabetes. No evidence of chorioamnionitis, villitis, toxoplasma or viral inclusions was identified on H&E stains.

OUTCOME AND FOLLOW-UP

Despite being offered ample support by specialised staff, the patient has returned to cocaine use, which is likely to adversely affect her mental state.

DISCUSSION

This sad case is likely to be the result of the complex interplay between heavy substance misuse, high-risk medication use throughout pregnancy, and inadequate awareness and follow-up of obstetric risks.

The fetal effects of cocaine exposure are thought to be related to global brain development. In an animal study of 54 timed-pregnant rats, cocaine exposure increased stillbirths, reduced fetal birth weight and fetal central nervous system weight, resulting in symmetrical intrauterine fetal growth restriction.⁴

In a secondary analysis of the multicentre Maternal Lifestyle Study, the percentile estimates for birth weight, length and head circumference were assessed in 1072 infants exposed to cocaine.⁵ After controlling for confounders, the authors describe growth deceleration in all parameters following 32 weeks gestation. They provide solid evidence to suggest that growth deceleration in cocaine-exposed infants becomes more pronounced with advancing gestation.

In this patient, normal growth velocity, amniotic fluid and umbilical artery flow were observed on USS at 19+3, 29, 32+2 and 34+4 weeks gestation (figure 1). Unfortunately, our patient did not have any further USS between then and her scan at 40 +1 weeks gestation, where a significant reduction in the abdominal circumference growth velocity was noted (figure 2). These findings are consistent with the literature, with growth deceleration becoming most pronounced in the last 2 months of gestation.⁵

Had this patient been followed up with serial scans at 36 and 38 weeks gestation, a trend may have been readily identified. This would have been especially important following the reported episode of reduced fetal movements at 34 weeks. In women who present with one episode of reduced fetal movements, obstetricians usually rely on the ability of patients to promptly identify any further episodes. Women who have ongoing mental health and substance misuse problems, however, may have a reduced awareness of bodily sensations, especially if they occasionally require sedative medication.

The evidence pooled by the UK Teratology Information Service demonstrates that propranolol use during the first and second trimesters is associated with IUGR, and its use near term may result in neonatal bradycardia, hypotension and hypoglycaemia.⁶ In this patient, a discussion at 18 weeks gestation was documented, where the above risks of propranolol were considered, however, it was deemed necessary to continue treatment given the severity of her migraines.

The evidence available linking sertraline exposure and intrauterine death is poor and inconclusive,⁷ and no studies have been published investigating the relationship between quetiapine exposure and intrauterine death.⁸ It is not against clinical best practice to prescribe β -blockers, selective serotonin reuptake inhibitors and antipsychotics throughout pregnancy if the benefits outweigh the risks of debilitating migraines and depression. Nevertheless, if the decision is made to continue medication that may be linked to fetal morbidity and mortality, every effort must be made to regularly monitor fetal growth.

This case study may reflect inadequate awareness, among obstetricians, of the implications of those medications with

Figure 1 Patient pregnancy timeline.

inconclusive evidence of in utero exposure. Importantly, it may also reflect the tendency to disregard the importance of symptoms such as abdominal pain and reduced fetal movements in patients with overwhelming psychiatric symptoms, because the latter may be distracting from the obstetric findings.

Unfortunately, IUGR was missed in a patient with significant obstetric risk factors including obesity, substance misuse and β -blocker use. While an attempt was made at protecting this patient with an admission under the Mental Health Act, it is possible that her psychiatric symptoms overshadowed some important obstetric findings that should have been promptly identified. This case highlights the need for a detailed, individualised management plan in women with pre-existing mental health problems. These high-risk patients should have access to

joint obstetric and psychiatric clinics, avoiding the difficulty of having to attend multiple appointments and poor communication between different specialists responsible for their care.

Learning points

- ▶ Women with a history of psychiatric disease are at risk of receiving substandard care in pregnancy. They are often poor historians or frequent attenders for non-specific symptoms, losing credibility in the eyes of the obstetrician. There is overwhelming evidence of the contribution of mental health problems to perinatal morbidity and mortality, and it is crucial that those involved in the care of these women do not lose sight of this.
- ▶ Women who are exposed to substance misuse in pregnancy are at increased risk of intrauterine growth restriction, which can be late in onset. Serial growth scans should be offered to these women and particular care should be taken to ensure that mental illness does not interfere with attendance at obstetric appointments.
- ▶ Women with mental health problems are often prescribed multiple medicines, and the effects of these on the fetus are not always known. A multidisciplinary approach is the best course of action in these cases.

Figure 2 Patient growth scan: fetal abdominal circumference plotted over the course of the pregnancy, in relation to the 97% and 3% centile curves.

Competing interests None declared.

Patient consent Obtained.

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