Maternal and Perinatal Watch

Antenatal antidepressant exposure and the effects on newborn babies

The Clinical Excellence Commission, Patient Safety Directorate developed the following summary from Maternal and Perinatal Serious Incident Reviews.

Antenatal antidepressant exposure – What Clinicians Should do

For newborn babies exposed to Selective Serotonin Reuptake Inhibitor (SSRI) or Selective Noradrenaline Reuptake Inhibitor (SNRI) antidepressants in utero:

- **Be aware** of the increased risk of Poor Neonatal Adaptation Syndrome (PNAS), which in severe cases can result in seizures, respiratory distress and the rare but potentially fatal condition, Persistent Pulmonary Hypertension of the Newborn (PPHN).
- **Be aware** the use of observation tools targeted towards opiate withdrawal (e.g., Finnegan's Neonatal Assessment Severity Score) may not accurately assess the impacts of SSRIs/SNRIs exposure [6].
- **Observe** babies in hospital for a minimum of 24-hours following birth.

Case Summary

A 33-year-old female, known to an antenatal service, was noted to have a history of anxiety and depression that was stable throughout her pregnancy. She was on long-term treatment with desvenlafaxine, an SNRI antidepressant. At 37 weeks gestation, she went into spontaneous labour at a regional hospital and had a female baby via a normal vaginal birth. The baby was born with Apgar scores of 9 and 9. She breastfed well immediately following birth and remained skin to skin with the mother. Standard post birth care was attended for both the mother and baby. The baby's vital signs were between the flags and the Blood Glucose Level (BGL) was 8.2 mmol/L.

At 3 hours of age and while still in the birthing environment, the baby started grunting. On assessment, the baby was described to 'appear well' but continued to grunt. An oxygen saturation was conducted and was determined as between 70-80%. A rapid response was called. The baby quickly became pale, mottled and was poorly perfused, with repeat oxygen saturations of 62% and a significant audible heart murmur.

The baby's heart rate decreased to less than 100bpm and she required full resuscitation with endotracheal intubation, mechanical ventilation, and inotropic support. Sepsis was considered as a potential diagnosis and broad-spectrum antibiotics were commenced.

The Newborn Emergency and paediatric Transport Service (NETS) retrieved the baby and transferred her to a Neonatal Intensive Care Unit (NICU). After ruling out other potential underlying causes, the postnatal collapse was attributed to Persistent PPHN secondary to SNRI exposure. The baby remained critically unwell, requiring inhaled nitric oxide and a prolonged period of ventilatory and inotropic support in the NICU. She was able to be discharged home to her parents at 24 days following birth, with ongoing follow-up by a paediatrician.

The mother and baby continued to do well with no ongoing issues.

It is important to note the woman and her partner were counselled regarding the decision to continue antidepressant medication in pregnancy and this was supported and recommended by her care providers for her best mental health.

Antenatal Exposure to SSRIs/SNRIs

Background

Antenatal depression is common, with a 4-year prevalence of up to one in 10 Australian women. [1]

Untreated antenatal depression is associated with significant risks to the baby and mother, including miscarriage, low birthweight, pre-eclampsia, postnatal depression, suicide, and reduction in access to infant preventative health services. [1] [2] [3] [4]

The SSRI and SNRI classes of antidepressants have the largest amount of safety data and agents within these classes are generally recommended as first-line antidepressants during pregnancy. [7]

Severely affected babies may experience toxicity and present with seizures, respiratory distress and/or the rare condition, PPHN. PPHN is defined by failure of the pulmonary vasculature to relax after birth, resulting in hypoxemia and has a high rate of mortality (5%) and severe morbidity (60%). [13,14].

PNAS is observed in 10-30% of babies exposed to an SSRI/ SNRI in late pregnancy. In most cases, symptoms of PNAS are self-limiting and will resolve within two weeks with supportive care.

Early identification of serotonin intoxication can prevent harm and improve outcomes for babies exposed to antenatal SSRIs/SNRIs.

Presentation and Assessment

Most babies will experience a peak of symptoms by 24 to 48 hours. [4] [6].

PPHN signs and symptoms include: [7]

- Respiratory distress including apnoea and tachypnoea
- Cyanosis
- **Poor perfusion, lethargy, difficulty feeding**
- Low oxygen saturations (<90%).
- There may be a difference between pre-ductal (right hand/wrist) and post-ductal (rest of body) oxygen saturations.

Toxicity signs and symptoms may include: [7]

- Temperature instability
- Hypoglycaemia [8]
- Seizures [9]

PNAS signs and symptoms include: [7]

- Jitteriness and irritability
- Difficulties feeding due to suck/swallow discoordination [10]
- Low Apgar scores. [13]

Care Recommendations

Antenatal Care

- Maintain the woman on her antidepressant medication.
- Provide education and support regarding the benefits of continuing medication, including the greater risk associated with ceasing medication.
- Provide guidance on the possible effects of SSRIs/SNRIs in babies, including the need for observations in hospital after birth.
- Ensure access to Perinatal Infant Mental Health Services (PIMHS) who provide specialist support in this area.

Postnatal Care

Keep the mother and newborn baby together in the postnatal environment after birth.

In addition to the newborn risk assessment and standard observations requirements following birth, in line with NSW Health Policy

Directive *Recognition and management of patients who are deteriorating*, as a minimum it is essential to identify these babies as having perinatal risk factors and to complete:

- a full set of observations 6 times per day at 4-hourly intervals including oximetry (post ductal reading)
- an individualised clinical management plan.

It is recommended to include in the clinical management plan:

- a Blood Glucose Level (BGL) after the first feed and within 24 hours of birth.
- Breastfeeding support if this is the woman's chosen method of feeding.

The frequency and timeframe of observations should be increased in accordance with the baby's clinical condition and individual risk factors as per the baby's clinical management plan.

Babies with suspected PPHN need to be escalated to neonatal services.

NSW Health Resources

South Eastern Sydney LHD - Depression and Anxiety during Pregnancy and while Breastfeeding

NSW Health Policy Directive - Recognition and management of patients who are deteriorating – PD2020_018

We value your feedback. If you have any questions or comments about this report, please email CEC-PatientSafety@health.nsw.gov.au

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