USE OF BUVIDAL INJECTION IN PREGNANCY

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Background – Buprenorphine is a treatment for opioid dependence and acts as a partial agonist to mu opioid receptors. It has the advantage of acting on the central nervous system sooner than alternatives such as methadone which results in less respiratory depression and sedation. It has been shown to have lower concentration in maternal and umbilical cord plasma, less fetal transplacental transfer and lower fetal circulation in pregnancy.[1] Extended release buprenorphine has further potential benefits including longer engagement with treatment, greater flexibility for patients, distribution of human resources to other areas of need and more positive psychosocial impact including reduction in treatment burden and decreased exposure to an environment/people associated with dependence.[2] While there have been limited studies assessing the efficacy of long acting buprenophrine, Buvidal, on neonatal outcomes, there is some evidence suggesting its benefits over methadone such as lower rates of neonatal abstinence syndrome (NAS)[3], lower rates of pharmacotherapy for NAS[4], and lower intensity of NAS[5]. Despite studies demonstrate the advantages of opiate treatment in pregnancy such as reduced blood borne illnesses, overdosing, improved antenatal care and improved maternal and fetal outcomes such as low birth weight, toxaemia, third trimester bleeding, microcephaly and neurobehavioral problems, overall studies looking at maintenance opioid treatment are lacking and there is insufficient evidence to draw definitive conclusions.

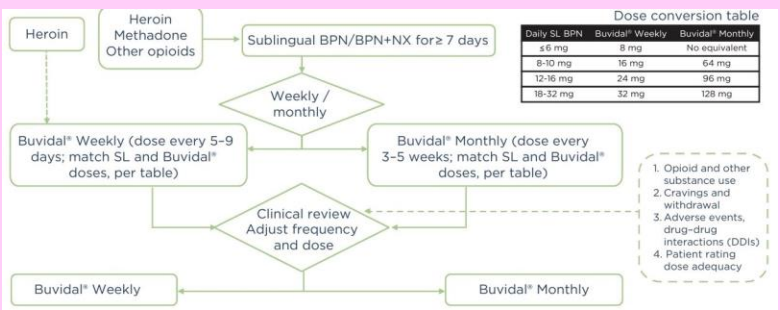

Figure 1. Overall dosing with Buvidal (NSW Health Clinical Guidelines)

Case – A multiparous woman in her late 30s who has engaged with polysubstance use since her teenage years with five previous children not in her care commenced on Buvidal injections in early 2021. Her last reported use of heroine was one month prior to this current pregnancy. She received a shared model of care and received additional support and counseling through Addiction Medicine and social work services. She was voluntarily self-engaged with the Department of Communities and Justice (DCJ) and continued to receive monthly dosing throughout the majority of her pregnancy. She had one episode of relapse which required a period of weekly dosing. She delivered at term with no intrapartum complications and the baby APGARS were 9 and 9 at 1 and 5 minutes respectively. The baby remained well with a weight of 3785g and did not receive any additional Paediatric reviews or Special Nursery care. In the postpartum period, she recovered well and was discharged home shortly with her baby. Ongoing home and social work support has found she continued to adjust well and continues to be on monthly Buvidal monthly injections. The patient has reported that monthly dosing allowed her the opportunity to return less to an environment associated with her substance use and with old associates. Monthly dosing has also afforded her more time she did not need to use attending appointments.

Discussion - As our practice of managing substance dependency advances with novel pharmacotherapeutic developments, it is important that the benefits are made available to vulnerable patients, in this case in particular, pregnant women and their potential children. This case demonstrates the exponential benefits of these developments in empowering her to engage with antenatal services, and by reducing burden of treatment of her opioid dependency. From the perspective of management of the patient's pregnancy and her substance use, this pregnancy was largely without complication. She completed her pregnancy without further relapse, avoiding potential complications of intravenous drug use such as blood born infection or venous thrombosis, and without significant withdrawal. She successfully engaged in antenatal care, was diagnosed and treated for Hepatitis C postpartum, had an uncomplicated delivery and an unremarkable postnatal period. While limited data exists to support the benefits of long acting depot injections in pregnancy, there are clearer benefits in the use of partial agonists over methadone. The benefits of the Buvidal injection in this case are clear indicators that further research and trials are warranted.

Patient Impact

For the patient, the reduced burden of treatment gave her opportunity to focus on her care, recovery and bonding with her infant while avoiding known triggers. Importantly, her engagement allowed her to retain custody of her newborn daughter, which since for her has been a significant protective factor moving forward.

Learning Points

1. **Buprenorphine is non-inferior to methadone in antenatal and neonatal outcomes**
2. **Long acting depot injections facilitate engagement with antenatal and addiction services and reduce burden of treatment on vulnerable patients**
3. **There may be a case for benefits of long acting depot injections of regular oral dosing of buprenorphine**

References

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