THE OPIOID DEPENDENT MOTHER AND NEWBORN - AN UPDATE

THE 6TH ANNUAL IVEY SYMPOSIUM

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The sixth Ivey Chair Symposium, held at the University of Western Ontario in October 2011, was dedicated to an update on the complex issues surrounding opioid dependent mothers and their newborns. The day commenced with Loretta Finnegan who provided a historical overview of the complex issues surrounding the addicted mother and her baby suffering from neonatal withdrawal syndrome. It is remarkable that the tool devised by Dr Finnegan forty years ago is in wide use today, capturing accurately the severity of NAS and the need for follow up and treatment. She stressed that comprehensive approach to the care of pregnant drug-dependent mothers and their babies significantly reduces maternal and infant's morbidity. The risk of low birth weight and severe withdrawal can be reduced substantially when both patients in this dyad are optimally cared for. The seven speakers following her provided an update on the medicinal and non drug approach to treat the opioid-dependent mother and her newborn, including new Canadian guidelines which were just released.

CRITICAL ISSUES ASSOCIATED WITH OPIOID USE IN PREGNANCY AND THE NEWBORN – *Ontario Guidelines for Treating NAS in Newborns*

Dr. Henry Roukema

Neonatal Abstinence Syndrome (NAS) is a classification for neonatal withdrawal symptoms from maternal use of drugs of addiction. The incidence of this syndrome has doubled in 5 years with a corresponding increase in neonatal intensive care unit bed utilization. There is a greater than 2% use of NICU beds for NAS with an average length of stay of 15 days for NAS affected infants, versus the average stay of 1.4 days.

Physical risks of NAS are a result of physical withdrawal. This withdrawal can result in preterm birth, low-birth weight and/or intrauterine growth restriction. There are also significant social risks associated with the mothers having an opioid dependence. There is however little evidence of long term harmful effects of NAS, unlike alcohol abuse which is directly associated with Fetal Alcohol Syndrome.

A NAS expert panel was convened by the Provincial Council for Maternal and Child Health (PCMCH) and was organized into three sub-groups; prenatal and discharge planning, screening and scoring, and treatment options. The recommendations are available on the PCMCH website (www.PCMCH.on.ca).

In regards to prevention, it is recommended that women be routinely screened for drug use early in prenatal care. Secondly, contraception options should be discussed when initiating methadone treatment because of increased rates of ovulation after treatment initiation and thirdly, a comprehensive social marketing campaign to educate women about substance use in pregnancy is recommended. Supportive intervention is also suggested with urgent referrals for women who are opioid dependent to obstetrical care and addictive services. It is important that social and physical risks are assessed in early pregnancy with a collaborative care model be provided to deliver services.

The recommendations from the Ontario Guidelines for Treating NAS in Newborns stress the importance of a written care plan to supplement the antenatal record and to include specific discharge planning goals. Within the discharge planning, it is important to identify the primary care physician and ensure there is a high-risk public health nurse for home visits. In addition, developmental monitoring of the baby is required and support social services should be provided to the mother. It is also recommended that the mother be educated about the risks for future pregnancies.

Toxicology screening for mother and baby is recommended, if at the time of pregnancy and/or delivery, illicit drug use is suspected. Toxicology screening includes urine and meconium; however, if urine is positive, there is no need to do testing on meconium. Positive test results for illicit substances, requires reporting to the Children's Aid Society.

It is recommended that the Finnegan Scoring Tool be used in order to assess NAS. Separation from the mother should be minimized and the mother and baby should be given a quiet environment. A quiet supportive environment may minimize the need for oral morphine treatment. Again, discharge planning is a key element for this population.

The Ontario Hospital Association and Child Welfare are to develop clear guidelines regarding consent for toxicology screening and to create online training for clinicians. It is also recommended that buprenorphine be an alternative treatment for pregnant women addicted to opioids and its availability should be further reviewed.

Ontario has the highest rate of narcotic use in Canada with Ontario's north being highly affected because of a number of additional psychosocial issues that exist in these remote communities. There are very few methadone programs accessible to the population in Northern Ontario and there are pervasive mental health conditions that are under-treated. Treatment options for pregnant women in this part of the province require confinement to health care facilities outside of their own community prior to birth. This does not adequately meet the needs of these women or their families.

In conclusion, there are 10 key points:

1. We need greater public awareness of this issue.
2. Recognition that narcotic use and Neonatal Abstinence Syndrome is on the increase in our society.
3. There needs to be a robust tracking system for narcotic prescriptions to minimize their illicit use.
4. Pregnancy is a period of high motivation for change.
5. A supporting family is the least expensive intervention and the most effective.
6. The physical elements of Neonatal Abstinence Syndrome are treatable.
7. The psychosocial elements are much more complicated, but are the key components of successful outcomes for these babies and their families.
8. Buprenorphine should be considered as an alternative treatment to methadone because it may prevent or shorten Neonatal Abstinence Syndrome.
9. Supportive resources need to be expanded and more accessible to women.
10. These challenges are most prevalent in Northern Ontario and this population needs to be addressed further.

TREATMENT ALTERNATIVES FOR OPIOID DEPENDENCE IN PREGNANCY

Alice Ordean

Opioid misuse and dependence have become growing public health concern since the 1990s. However, the prevalence of opioid use during pregnancy remains unknown. Polysubstance use is commonly reported among pregnant opioid-dependent women with benzodiazepines, cocaine, and marijuana as the most common comorbid drugs. Pregnant women also frequently report family history of substance abuse and concurrent psychiatric disorders (e.g. mood and anxiety disorders, past sexual abuse).

Consequences of opioid dependence during pregnancy are related to uterine irritability secondary to opioid withdrawal leading to increased risk of miscarriage, premature labour, fetal distress and fetal demise. Symptomatic

treatment should be offered to minimize withdrawal especially until other treatments become effective. Pregnant women who meet criteria for opioid dependence should be offered opioid agonist treatment (OAT) (methadone or buprenorphine).The benefits of OAT outweigh risks of untreated opioid dependence during pregnancy. OAT leads to decreased withdrawal symptoms, decreased illicit opiate use and cravings, reduced fetal/neonatal complications, improved maternal health status and compliance with prenatal care.

The most significant risk of opioid exposure during pregnancy is neonatal withdrawal also known as neonatal abstinence syndrome (NAS) which is characterized by:

1. Central nervous system hyperirritability (eg. increased muscle tone, tremors),
2. Gastrointestinal dysfunction (eg. poor feeding, regurgitation, loose stools),
3. Metabolic, vasomotor & respiratory disturbances (e.g. recurrent sneezing & yawning).

Methadone, a mu receptor agonist, remains the standard of care for management of opioid dependence during pregnancy. Methadone is a substitute for both heroin and prescription opioids. It is dispensed as a liquid made by mixing methadone with an orange drink (to prevent injection use). Methadone is well-absorbed from the gastrointestinal tract. It is effective within 30 minutes, with a peak at 2-4 hours and exhibits a long duration of action of up to 24-36 hours. Once stabilized on a dose of methadone, subsequent doses should not cause sedation, analgesia, or euphoria. Critically, the drug allows normal function to perform required mental and physical tasks. Methadone crosses the placenta, but is not teratogenic. NAS occurs in up to 85% of newborns exposed to methadone *in utero*. The infants typically have lower birth weights than controls – a difference that resolves within 1-2 years. The drug is compatible with breastfeeding due to the presence of very small amounts in breast milk which has no clinical significance.

Buprenorphine, a partial mu receptor -agonist is a sublingual tablet, approved for treatment of opioid dependence in Canada in 2007. It produces opioid-like effects equivalent to methadone, including relief of withdrawal symptoms and suppression of cravings. It is characterized by a ceiling effect with no additional effect above a maximum dose; thus, safer in overdose but less effective at retaining patients in care. In non-pregnant populations, buprenorphine is associated with less physical dependence and milder withdrawal due to its pharmacological properties. Earlier studies suggested that buprenorphine is as safe and effective as methadone during pregnancy and is associated with milder neonatal withdrawal. A recent RCT demonstrated that neonates exposed to buprenorphine required less morphine, had shorter duration of treatment and shorter hospital stay for NAS [MOTHER study].

Slow-release morphine may be considered in specific situations. Based on one RCT comparing methadone to slow-release morphine maintenance in pregnant women, there were no differences in pregnancy complications, birth parameters, or NAS.

In conclusion, methadone remains the standard of care for opioid dependence during pregnancy. Due to limited experience with buprenorphine during pregnancy, its use can be considered after discussing risks and benefits of treatment. Slow-release morphine can be a last resort if there is no access to methadone or buprenorphine.

NON METHADONE, NON BEPRENORPHINE MAINTENANCE THERAPY FOR OPIOID DEPENDENT PREGNANT WOMAN

Mel Kahan and Fatima Uddin

Methadone is the standard of care for opioid dependent people. However, buprenorphine has recently been demonstrated to be an alternative treatment that is safe and effective. This alternative is potentially important to women who live in remote communities in Canada. In these communities there is often not a physician who is licensed to prescribe methadone. Furthermore, many community pharmacies do not dispense methadone. Coupled with minimal counseling and treatment services, and a lack of anonymity in small communities, women face many obstacles in their attempt to receive treatment for opioid dependency. In Ontario, Telehealth fills the gap in some communities, but ‘one stop’ care in a

primary care setting would be best. There are many testimonials, from across Canada that describes the difficulties and frustrations that opioid dependent women in rural communities must face. These testimonials range from a First Nations community in Northern Ontario to rural Manitoba.

Despite the potential benefits of buprenorphine, access to this drug is not straightforward. Suboxone® (buprenorphine-naloxone) is not indicated in pregnancy because of the naloxone component. Subutex® (buprenorphine) is available through the special access program (SAP) from Health Canada. This step requires paperwork to be completed.

A Cochrane review suggested that controlled-release morphine (CRM) may be effective in treating opioid dependence. A recent study demonstrated little difference among newborns or their opioid dependent mothers who were maintained on methadone, buprenorphine or CRM during pregnancy. In a 2011 review, CRM was found to be as effective as methadone in non pregnant patients.

Possible benefits of CRM over methadone include the fact that it can be prescribed by any family physician or obstetrician and it can be dispensed at any pharmacy. Titration of CRM may be safer compared to methadone, diversion may be less, and there is faster entry into treatment.

Disadvantages of CRM are that most physicians are unfamiliar with the principles of opioid agonist treatment, daily dispensing is required (twice daily dosing) and CRM is not approved by Health Canada for the treatment of opioid dependence.

Morphine maintenance during pregnancy is not ideal, but is likely safer than ongoing illicit opioid use. It is important to advocate for greater access to comprehensive methadone and buprenorphine treatment in remote Canadian communities.

Next steps include a survey to determine the proportion of opioid dependent patients in rural areas of Canada who lack access to methadone or buprenorphine treatment, as well as to determine if care providers are prescribing CRM to these patients. Finally, training in remote communities is needed. Practical training, clinical materials and ongoing support in assessment and diagnosis of opioid dependence and treatment, counseling and an integrated team approach that is required.

HARM REDUCTION IN PREGNANCY

Ron Abrahams

A description of the harm reduction program that integrates hospital with the community is provided, using Sheway and Fir Square as the examples of where this model has been in place for 25 years. While the immediate objective is to decrease the amount of drug that the mother and baby are exposed to, other objectives are to improve social stability, to facilitate bonding between mother and baby, to reduce withdrawal symptoms in the newborn, and to prepare more babies to go home with their mother. “Mother the mother” and you will “mother the child,” for example, by providing a safe injection site.

Sheway is a community project for women and children. The program is run by a multidisciplinary team. This team must be user friendly, non judgmental, and trusted by the patient. It must be nurturing and support the women’s self determination and choices. Sheway provides the foundation to enable mothers and babies to go home as a health unit.

In the 1980s and 90s women and their babies were separated following delivery. In the 2000s, the babies have been ‘rooming in’ with their mothers. In mothers who used methadone or heroin, our group has demonstrated fewer symptoms of newborn withdrawal. Also, more babies went home with their mothers who roomed in. Weight gain in the newborn is the most important measure to make in these newborns. We use a simplified “Neonatal Observation Sheet” provide a numerical score. This is a simplified version of the Finnegan Rating Scale. Rooming in has demonstrated a decreased use of morphine in the newborns, as well as a reduction of apprehension of the newborn.

FIR is the “Families in Recovery” unit at the BC Women’s Hospital. A Perinatal Addiction Service provides 24/7 coverage to FIR. Primary care physicians in the community are integrated with the hospital, and work closely with a multi

disciplinary team. FIR is staffed with nurses who are dedicated to providing a continuity of care between the hospital and the community.

Recent animal work suggests that 'cuddle and hold' may have an epigenetic role in cognitive development. (JECH July 2010) The development of an 'apprehension free zone' is important, and is awaiting a change in legislation. SHEWAY provides supportive housing for the newborn mother. Both FIR and SHEWAY programs help integrate the mother into the community.

Continuity of care is critical for fostering compliance, trust and improving outcomes.

TELEHEALTH METHADONE ON A FIRST NATION RESERVE

Claudette Chase

Opiate addition in Northern Ontario's Aboriginal community is in a state of emergency. This was declared by the Nishnawbe Aski Nation in 2009 due to epidemic opioid prescription drug use.

The difficulties associated with illicit substance use in these communities are vast. There are no methadone pharmacies in many communities and very few prescribers. In addition, a community bias has developed against methadone. This is because methadone treatment requires patients to move to "town" and even still, there are not enough clinic resources available to meet the needs. Subutex (buprenorphine) is a viable alternative to methadone treatment but it is unavailable in the northern communities.

There is a low success rate of outpatient medical detoxification. These programs provide morphine for replacement treatment with dose weaning. There are strong social pressures to share morphine with relatives, and when the morphine is no longer available, patients will relapse into withdrawal and further illicit use.

The supports available in the northern communities are variable, but very few have adequately trained support staff and programs. A low number of staff often leads to a high degree of staff burnout. There are limitations in the ability to travel in the north. For example, there was a mental health worker on our First Nations reserve only 5 days in total last summer. The only current treatment strategy in place is relieving withdrawal symptoms with morphine. The use of Subutex or buprenorphine is anticipated to be an alternative treatment that we hope will have some success in our communities.

The challenges that this special population face are many, including intergenerational trauma. This simple term tries to capture the incredibly complex injuries to emotional, physical, and spiritual being that this population has experienced and which has significantly impacted their mental health. The strengths in the communities however are present. They recognize the need to get to the root of these issues of addiction. They have demonstrated resilience and have initiated community-based drug detoxification programs. There is a broader acceptance of harm reduction than previously.

Judy Desmoulin

Longlac, Ontario is in a state of emergency, specifically as it relates to prenatal care for women with opioid addictions.

The number of children born in the last couple of years has decreased. There has been an increase in pregnancy losses. In 2010, there were 4 miscarriages, 2 stillborn and all but 2 mothers out of a total of 30 were on methadone maintenance during pregnancy. The incidence o neonatal abstinence syndrome in the community is close to 80% with an average ICU stay for these infants of 30-40 days. NAS treatment is provided away from families and community. A model of care for these mothers needs to include mental health care, spiritual care, physical and medical care, as well as emotive care.

In summary, we stress that the solution to opioid addiction in itself is not methadone, but the need to get to the root of the problem and address the many needs under a model of holistic care for the community.