THE JOURNAL OF OBSTETRICS AND GYNECOLOGY OF INDIA

The Journal of Obstetrics and Gynecology of India (March–April 2019) 69(S1):S1–S3
DOI 10.1007/s13224-017-1064-6

CASE REPORT

Opioid Dependence in Pregnancy

Sunesh Kumar[1] · Venus Dalal[1] · J. B. Sharma[1] · Rakesh Chadda[2] · Ramesh Agarwal[3] · K. K. Roy[1]

Received: 18 July 2017 / Accepted: 26 October 2017 / Published online: 7 November 2017

About the Author

Sunesh Kumar is professor and unit head in department of obstetrics and gynaecology in All India Institute of Medical Sciences, New Delhi. He has special interest in high risk obstetrics and gynaecology oncology.

Sunesh Kumar, M.D. (obs and gynae), is professor in the department of obstetrics and gynaecology in All India Institute of Medical Sciences, (AIIMS), New Delhi; Dr. Venus Dalal, M.D. (obs and gynae), is senior resident in the department of obstetrics and gynaecology in All India Institute of Medical Sciences, (AIIMS), New Delhi; Dr. J.B. Sharma, M.D. (obs and gynae), is professor in the department of obstetrics and gynaecology in All India Institute of Medical Sciences, (AIIMS), New Delhi; Dr. Rakesh Chadda, M.D (psychiatry)., is professor of the psychiatry department in All India Institute of Medical Sciences, (AIIMS), New Delhi; Dr. Ramesh Agarwal, M.D. (paediatrics), is professor of the paediatrics department in All India institute of Medical Sciences, (AIIMS), New Delhi; Dr. K.K. Roy, M.D. (obs and gynae), is professor of the obstetrics and gynaecology department in All India Institute of Medical Sciences, (AIIM)S, New Delhi.

✉ Venus Dalal
venusdalal@gmail.com

[1] Obstetrics and Gynaecology Department, All India Institute of Medical Sciences, AIIMS, New Delhi, India

[2] Psychiatry Department, All India Institute of Medical Sciences, AIIMS, New Delhi, India

[3] Paediatrics Department, All India Institute of Medical Sciences, AIIMS, New Delhi, India

Managing opioid dependence in pregnancy is a challenging task. Pregnancy makes opioid-dependent women highly motivated to modify their behaviour and engage in treatment for drug dependence that will benefit her and her unborn child [1]. We describe a case of opioid dependence in pregnancy. Specific issues that need discussion include the choice of opioid substitution therapy and neonatal abstinence syndrome.

Case

A 30-year-old female G3P2L0 presented to OPD at 6-month amenorrhoea with history of opioid (heroin in the form of smack orally) dependence since 12 years. Discussing her obstetric history, her previous deliveries were conducted at home. She had one stillbirth (cause not known) and one live birth with uneventful neonatal period. According to the patient, baby did not show withdrawal symptoms or require intensive neonatal care. She lost her

child at 2 years of age due to accidental fall during her intoxication. She was concerned that continuing heroin would affect her pregnancy and unborn child. This was her second marriage, and both her husbands were heroin addict.

Engaging patient in treatment and careful exploration of her specific concerns was primary aim. All antenatal investigation including anomaly scan and screening for HIV, hepatitis B and syphilis was done. She stopped heroin intake and was immediately started on buprenorphine 7 mg/day after psychiatry evaluation. Patient was explained the likelihood of neonatal abstinence syndrome and treatment of it. She underwent elective LSCS for breech presentation. Her post-operative course was uneventful. Buprenorphine 7 mg/day was restarted 6 h post-operatively. Fortunately, her pain was relieved on NSAIDs. She delivered male child that cried immediately after birth, and no active form of resuscitation was required. Baby was shifted to neonatal intensive care unit for observation. Onset of withdrawal in neonate started at 15 h of birth in the form of increased irritability, mild tremors when disturbed and increased muscle tone. The modified Finnegan scoring system was maintained. The modified Finnegan scoring showed a score of more than 9 on three consecutive occasions following which pharmacotherapy in the form of morphine solution was instituted. Peak withdrawal features appeared at 38 h of life with features of persistent crying for more than 5 min, increased muscle tone, excessive sucking and regurgitation more than twice and frequent passage of stools. Maximum scores were 13–14. Maximum required dose of morphine was 1.2 ml/kg/day (0.7 mg/kg/day). Scores came down at the fifth day of life, and morphine dose was reduced to 0.4 mg/kg, but baby demonstrated rebound withdrawal following which dose was further hiked to 0.5 mg/kg/day 6-h dosing. Later, baby was maintained at dose 0.4 mg/kg of morphine, slowly weaned off and discharged in stable condition on day 50 of life. Mother was also discharged in stable condition on buprenorphine therapy and is still continuing the same treatment. Fortunately, mother had no abstinence symptoms.

Discussion

Opioid dependence in pregnancy is associated with obstetric complications including intrauterine growth restriction, preterm labour, placental abruption, meconium stained liquor, intrauterine foetal demise, neonatal abstinence syndrome and neonatal death [1]. These risks may be related to fluctuating levels of opioid in foetus and placenta [1]. Ongoing opioid use is often associated with inadequate antenatal care and health complications such as poor nutrition, sexually transmitted diseases and overdose. In addition, the psychological insecurity and social problems like financial hardship further complicate the pregnancy.

An assessment should start with establishing rapport and gathering information to optimize treatment. A detailed history about duration of opioid use and use of nicotine, alcohol and other drugs should be taken. Proper obstetric history and associated antenatal complications in previous pregnancies is essential part of evaluation. An empathic attitude is helpful when discussing her fears about the pregnancy and social problems. Targeted physical examination should be done. Investigations such as hepatitis B, hepatitis C and human immunodeficiency virus is must along with other antenatal investigations. Many of these women may present in advance pregnancy and thus miss out on routine antenatal monitoring. So, anomaly scan and all antenatal investigations should be advised on their first antenatal visit.

Limiting foetal exposure to peaks of short-acting opioids and the intrauterine environment stabilization is the aim while treating such patients. Pregnant women on treatment are more psychologically and physically stable. They also have better antenatal and neonatal outcomes [1]. Any misconceptions that might be a barrier to medication-assisted treatment should be addressed exploring attitude towards maintenance therapy.

Rapid detoxification during pregnancy may lead to intrauterine stress for the foetus associated with poor foetal growth, preterm delivery and foetal death [1] making it less popular form of treatment. Currently, methadone, buprenorphine and a combination of drug-containing buprenorphine/naloxone are the options available to treat opioid dependence among pregnant women. Methadone, a synthetic opioid receptor agonist, has been treatment of choice for opioid dependence since long but have severe effects on foetus [2]. Buprenorphine is the only drug approved for treatment in office-based setting for opioid dependence (drug addiction act 2000). Buprenorphine has been increasingly subject of studies as a valuable alternative to methadone with beneficial effects on the neonatal abstinence syndrome [2]. This drug is often referred to as a mixed agonist–antagonist, and it also reduces the euphoria brought about by opioid abuse [2]. MOTHER study by Jones et al. in 2010 (Maternal Opioid Treatment: Human Experimental Research) is the largest randomized control trial so far comparing the safety and efficacy of buprenorphine versus methadone in pregnant opioid-dependent women. The study concludes that neonates prenatally exposed to buprenorphine required significantly lower amounts of morphine medication for shorter duration compared to methadone exposed neonates. The combination of buprenorphine/naloxone also has great potential

because the pure opioid antagonist (naloxone) is included when buprenorphine has less likelihood for abuse.

Opioid dependence is associated with heightened sensitivity to pain. Pain management is difficult in such cases, and tolerance to opioid pain medication is a major issue [3]. Peripartum and post-partum pain management of opioid-dependent women is particularly challenging [3]. Pain treatment of these patients includes adequately dosed maintenance therapy along with NSAIDs [3].

The neonatal abstinence syndrome manifests in the first few hours to days after delivery affecting majority of newborns, primarily the central nervous system, the respiratory system and the digestive tract [4]. Increased sneezing, watery eyes, frequent yawning, poor sucking, reduced sleep duration after feeding and increased reflexes are the frequent manifestations. Symptoms of neonate are monitored at regular intervals, and, if needed, treatment is initiated using morphine hydrochloride drops. Morphine is started if the modified Finnegan score is above 9 on at least two occasions [4]. According to Cochrane review (2010), morphine treatment is superior to phenobarbitone, diazepam and supportive care.

Breast feeding is encouraged in patient on maintenance therapy. Breastfeeding also reduces NAS score, and neonates require less opioid withdrawal treatment. Post-partum contraceptive advice is an important part of management of opioid use in pregnancy.

Conclusion

Women with opioid dependence frequently have unplanned pregnancy and are at risk of antenatal and post-partum complications. The majority of women benefits from buprenorphine or methadone treatment [2]. The management of pain during delivery and post-partum is often challenging due to opioid tolerance [3]. Contraceptive counselling is must in these patients. Monitoring newborn for neonatal abstinence syndrome is one of the important parts of management. Strong communication between obstetrician, psychiatrist and paediatrician is crucial to providing holistic and integrated care.

Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

Informed Consent in Studies with Human Subjects All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008 (5). Informed consent was obtained from patient for being included in the study.

References

1. ACOG Committee on Health Care for Underserved Women, American Society of Addiction Medicine. ACOG Committee Opinion No. 524: opioid abuse, dependence, and addiction in pregnancy. Obstet Gynecol. 2012;119(5):1070–6.
2. Laslo J, Brunner J-M, Burns D, et al. An overview of available drugs for management of opioid abuse during pregnancy. Matern Health Neonatol Perinatol. 2017;3:4.
3. Höflich AS, Langer M, Jagsch R, et al. Peripartum pain management in opioid dependent women. Eur J Pain Lond Engl. 2012;16(4):574–84.
4. Raffaeli G, Cavallaro G, Allegaert KK, Wildschut ED, Fumagalli M, Agosti M, et al. Neonatal abstinence syndrome: update on diagnostic and therapeutic strategies. Pharmacotherapy. 2017.