Buprenorphine Versus Methadone in the Treatment of Pregnant Opioid-Dependent Patients: Effects on the Neonatal Abstinence Syndrome


Drug use during pregnancy can be devastating to both mother and child, and this is particularly true of opioid-dependent women. Currently, there are few options available for treatment of opioid dependency during pregnancy, with methadone being the only recommended pharmacotherapy.

While birth outcomes are often improved after methadone treatment, recently-born babies of methadone-using mothers often develop neonatal abstinence syndrome (NAS), which results from abrupt withdrawal of methadone. Other opioid substitution drugs have not been thoroughly tested in the context of NAS. The current study compares one of these drugs, buprenorphine, with the standard methadone treatment in pregnant opioid-dependent women.

Twenty pregnant women who were opioid-dependent and met other eligibility criteria completed the study. Roughly half of the sample was randomized to the methadone group and half to the buprenorphine group. Treatment involved daily administration of either sublingual buprenorphine or oral methadone. Women were encouraged to remain abstinent from any other drugs or alcohol and were given voucher incentives for drug-free days in treatment. The 21 babies who were delivered, including one set of twins, were observed for 4 days after delivery for signs of NAS.

Results from this study were that only 2 of 10 (20%) buprenorphine-exposed neonates were treated for NAS while 5 of 11 (45.5%) methadone-exposed neonates were treated for NAS. Furthermore, the total amount of opioid-agonist medication administered to treat NAS in methadone-exposed neonates was three times that for buprenorphine-exposed neonates, and the length of hospitalization was shorter for buprenorphine-exposed than for methadone-exposed neonates. These results suggest that buprenorphine is not worse than methadone and could be beneficial for use in pregnant opioid-dependent women.