ABSTRACT

Objective:

No relationship has been reported between non-opiate neonatal abstinence syndrome (NAS) and anthropometric indices, including head circumference (HC). The purpose of this study was to determine the relationship between maternal non-opioid drug use and HC at birth in neonates with NAS.

Methods:

This retrospective observational study included neonates born between January 1, 2010, and March 31, 2019, whose mothers had been taking antipsychotic, antidepressant, sedative, or anticonvulsant medications. The outcome measures were HCs of NAS infants and controls.

Results:

Of 159 infants, 33 (21%) were diagnosed with NAS. There was no maternal opioid use among mothers during pregnancy. The HCs in the NAS group were significantly smaller than those in the control group. The median z-scores for HC at birth were -0.20 and 0.29 in the NAS group and the control group, respectively ($p = 0.011$). The median HCs at birth were 33.0 cm and 33.5 cm in the NAS group and the control group, respectively. Multivariate analysis revealed that maternal antipsychotic drug use and selective serotonin reuptake inhibitors were independently associated with NAS ($p < 0.001$ and $p = 0.004$, respectively). Notably, benzodiazepine use and smoking were not independent risk factors.

Conclusion:

The results suggest an association between maternal antipsychotic drug use and NAS, which was further associated with decreased HC. Careful monitoring of maternal drug use should be considered to improve foetal outcomes.