

Abstract

Objective

To see whether marijuana (MJ) use in pregnancy increases the risk for abnormal fetal growth as determined by fetal biometrics on 2nd trimester ultrasound and identify the potential factors mitigating or exacerbating this risk.

Methods

This is a retrospective cohort study. We reviewed charts of pregnant patients (pts) with urine drug screens (UDS) from January 2012 to December 2018. Cases were included if they had a positive UDS while controls were identified by having negative UDS. Controls were then matched to cases 1:1 on maternal age at delivery, parity (Nulliparous vs Multiparous), sex of the fetus, insurance status (private, income-dependent, and uninsured) and year of delivery (within 2 years of case delivery year). Excluded were pts who were less than 18 yo. at the time of conception, multifetal pregnancies, deliveries outside the UCHealth system, documented self-reported MJ use, or those had missing 16–27-week ultrasound, or ultrasounds with missing fetal biometrics (BPD, HC, AC, FL, EFW, and growth percentile). Positive marijuana UDS cases and negative marijuana UDS controls were then compared based on maternal demographics, fetal biometry, and size at birth. We compared maternal demographics, fetal biometry, and size at birth in pts with a positive MJ UDS vs negative MJ UDS.

Results

A total of 413 pts were included in the analysis; 224 were MJ positive and 188 were MJ negative. Pts were generally < 35 yo., multiparous, Non-Hispanic White with public insurance. At delivery and during the second trimester ultrasound (defined by 16-27-weeks gestation) there were no significant fetal biometry differences between groups, including head circumference, biparietal diameter, femur length, and abdominal circumference.

There was a higher frequency of depression (37% vs 21%, $p < 0.01$), opiate use (4% vs 0%, $p < 0.01$), self-reported tobacco use (47% vs 22%, $p < 0.01$), self-reported MJ use (60% vs 6%, $p < 0.01$), & positive UDS for other substances (13% vs 6%, $p = 0.02$) in MJ positive patients. At delivery, the median head circumference was slightly larger in MJ negative patients (33.5 vs 33.0, $p = 0.03$), otherwise there were no significant fetal biometry differences between groups. Not surprisingly, there were significantly more drug screens on babies born to MJ positive patients (68% vs 59%), $p < 0.01$.

Conclusion

Positive UDS for MJmarijuana in pregnancy appears to effect fetal head circumference as seen on 2nd trimester ultrasound and at the time of birthdoes not appear to impact fetal growth parameters on ultrasound or delivery fetal weight.