In monochorionic twin pregnancies, there is an increased risk of adverse outcomes when fetal growth disorders are present. For twins, evidence for the value of CPR in predicting adverse perinatal outcomes, including fetal growth disorders, is sparse.

**Objectives**

Determine whether low CPR is associated with fetal growth disorders in monochorionic twins.

**Primary Outcomes:**
- Growth discordance > 20%
- IUGR (< 10 %)
- sIUGR (growth discordance + IUGR)

**Exposure Variables of Interest:**
- Low CPR < 2.5%
- Elevated UA-PI > 95%
- Low MCA PI < 5%

**Methods**

Retrospective cohort of 164 monochorionic twin gestations, delivering after 20 weeks at The Ottawa Hospital (Jan 2014 – Dec 2017).

SAS 9.4 was used for statistical analyses, with appropriate parametric and non-parametric testing used for categorical and continuous variables. P < 0.05 was considered significant.

**Results**

No significant differences noted in demographic characteristics between groups with fetal growth disorders and those with no growth issues.

**Maternal:** Age, BMI, parity, smoking, previous PTB, preexisting Diabetes, essential HTN, ART use (p > 0.05)

**Neonatal:** Sex, antenatal steroids, gestational age (p>0.05)

**Figure 1. Relationship between Dopplers & fetal growth disorders**

Low CPR, elevated UA-PI, low MCA-PI, and UA-PI inter-twin discordance are significantly associated with fetal growth disorders in monochorionic twins. Sample size is comparable to the monochorionic twin subsets in larger studies of Dopplers in twins. Further study is needed to confirm this association, and to explore the association between these Doppler variables and other adverse obstetrical and perinatal outcomes.

**Conclusion**

Inter-twin Doppler percent discordance:
- CPR and MCA discordances calculated were not significant, but UA-PI discordances were significant between the groups.

**Figure 2. Comparison of sensitivity, specificity, PPV and NPV of low CPR across fetal growth disorders**