Author Response to Comment: Placental Pathology and Recurrent Preterm Birth

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The authors report no conflict of interest.
We thank Chen, et al. for their interest in our work. The indications for placental examination stated are recommendations and not fully reflective of clinical practice.

While preterm birth (PTB) >34 weeks was not a “standard” indication for placental examination, in our cohort, 52.9% of preterm placentas >34 weeks were sent to pathology-- similar to the rate of 64.2% of placentas sent to pathology of those who delivered at ≤34 weeks. The risk of recurrent PTB in our sample > 34 weeks was similar among the included (pathology) and excluded (non-pathology) sample (21.8% vs. 22.2%). In fact, among the sample ≤34 weeks, the recurrence risk in the included sample was 33.9% and the recurrence risk in the excluded sample was 14.5%. We do agree with authors and did speculate that the underlying pathology would be different between early/moderate and late PTB, and provided those results in Table 3.

We did not find that late PTBs with placental pathology examination had significantly higher rates of comorbidities than early/moderate PTBs. Patient clinical differences between early/moderate and late PTB in our pathology sample included a lower prevalence of pre-gestational diabetes, although both rates were still low (0.5% vs 3.3%). There were no differences in the prevalence of gestational diabetes (5.3% vs 6.8%) or hypertensive disorder of pregnancy (17.8% vs 19.5%). Furthermore, the percentage of PTBs with none of these conditions documented was 77.1% among early/moderate preterm and 74.6% among late preterm. While those with preeclampsia who delivered preterm had a high prevalence of MVM (74.4%), MVM remained prevalent among those without preeclampsia (45.2%), reflecting the same placental pathology can present differently clinically.
We acknowledge the inherent bias in retrospective sample of placental pathology, and used inverse probability weighting to account for this bias with consistent results (see Table S1 for differences in characteristics of those sent to pathology, and weighted results in Table S2). Due to the study design, we cannot establish causality and as such, we can only postulate regarding the association between low grade maternal vascular malperfusion and association with early PTB. We reiterate that the goal of our manuscript is to examine pathologic associations with recurrent PTB utilizing the placental pathology as an “objective” finding that reflects the end result of varying pathways leading to PTB. We hope that our results can continue to further the utilization of placental pathology in clinical practice.