INTRODUCTION

- Middle Cerebral Artery Peak Systolic Velocity (MCA-PSV) is the primary tool for determining need and timing of intrauterine transfusions (IUT) for severe fetal anaemia.
- Steroids may temporarily decrease MCA-PSV, potentially increasing false-negative MCA-PSV results in anaemic fetuses
- Lack of published data on pre- and post-steroid MCA-PSV in fetal anaemia population
- This study aims to assess whether maternal steroids prior to IUT decreases MCA-PSV

METHODS

- 33 cases (29 pregnancies) between 2005 - 2016 of steroid provision prior to IUT reviewed
- MCA-PSV pre & post-steroid correlated with haemoglobin at IUT (n=23)

RESULTS

1. Average MoM post-steroid lower than pre-steroid
   - 1.71 ± 0.41 vs. 1.62 ± 0.38 (-2.9% mean difference)
   - Difference not significant (n=23, p = 0.40), including in measurements ≤3 days apart (n=19, p = 0.21)
2. Post-steroid MCA-PSV decreased by >15% in 6/23 cases
   - A-B zone in 2 cases (9%), B-C zone in 1 case (Table 1)

CONCLUSION

1. No evidence of a sizeable, generalized effect of steroids on MCA-PSV
2. In cases where MCA-PSV dropped by >15%, the result shifted zones in 3 cases.
   - Anecdotal clinical evidence likely due to clinicians selectively remembering 'stand-out' cases
   - As this change may have altered clinical management, we should not discount impact of steroids on MCA-PSV without further research.

### Table 1

<table>
<thead>
<tr>
<th>MoM (pre-steroid)</th>
<th>MoM (post-steroid)</th>
<th>% Difference</th>
<th>Zone Pre Steroid</th>
<th>Zone Post Steroid</th>
<th>IUT No.</th>
<th>Hb at IUT (g/dL)</th>
<th>Days between MCA-PSV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.89</td>
<td>1.36</td>
<td>-28</td>
<td>A</td>
<td>B</td>
<td>1</td>
<td>6.9 (12.8 – 13.1)</td>
<td>3</td>
</tr>
<tr>
<td>1.74</td>
<td>1.36</td>
<td>-21.8</td>
<td>A</td>
<td>B</td>
<td>2</td>
<td>- a</td>
<td>1</td>
</tr>
<tr>
<td>1.29</td>
<td>1.03</td>
<td>-20.2</td>
<td>B</td>
<td>C</td>
<td>2</td>
<td>12.5 (12.3-12.6)</td>
<td>3</td>
</tr>
</tbody>
</table>

Meta: Fetal Blood Sampling & IUT ceased due to sustained maternal contractions