Supplementary figures, tables and appendix (datasheet) for: Short-term effects of dexamethasone versus betamethasone on ultrasonic measures of fetal wellbeing: cohort from a blinded, randomised trial

Supplementary Figure 1: CTG performance and timing

**Supplementary Table 1: Uterine artery Dopplers PI pre and post corticosteroid administration, Dexamethasone versus Betamethasone**

(a) Right uterine artery (RUtA) pulsatility index

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Median | IQR | N | Median | IQR | N | Median | IQR |
| Baseline | 37 | 0.92 | 0.74-1.14 | 19 | 0.90 | 0.83-1.13 | 18 | 0.96 | 0.73-1.25 | 0.48 |
| 24 hours | 41 | 0.92 | 0.73-1.19 | 18 | 0.91 | 0.73-1.05 | 23 | 0.99 | 0.70-1.46 | 0.33 |
| 48 hours | 37 | 0.96 | 0.67-1.19 | 19 | 0.77 | 0.56-1.16 | 18 | 0.98 | 0.84-1.59 | 0.053 |
| 96 hours | 31 | 0.80 | 0.62-1.01 | 14 | 0.75 | 0.52-0.96 | 17 | 0.84 | 0.77-1.06 | 0.08 |
| 1 week | 26 | 0.85 | 0.66-0.92 | 13 | 0.85 | 0.66-0.87 | 13 | 0.85 | 0.62-0.94 | 0.65 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Within-Subjects Effects (n= 18)\* | | |
|  |  |  |  |
|  | Median | IQR | P value |
| Baseline | 0.87 | 0.69-0.97 | 0.42 |
| 24 hours | 0.85 | 0.70-1.01 |
| 48 hours | 0.77 | 0.63-1.04 |
| 96 hours | 0.80 | 0.60-0.96 |
| 1 week | 0.85 | 0.73-0.92 |

**(b) Left uterine artery (LUtA) pulsatility index**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Median | IQR | N | Median | IQR | N | Median | IQR |
| Baseline | 37 | 0.80 | 0.59-1.11 | 20 | 0.79 | 0.58-1.03 | 17 | 0.88 | 0.73-1.18 | 0.46 |
| 24 hours | 43 | 0.88 | 0.63-1.19 | 20 | 0.77 | 0.58-1.13 | 23 | 0.88 | 0.67-1.53 | 0.20 |
| 48 hours | 35 | 0.82 | 0.64-1.30 | 17 | 0.76 | 0.62-1.15 | 18 | 0.89 | 0.73-1.48 | 0.22 |
| 96 hours | 29 | 0.75 | 0.54-1.03 | 14 | 0.55 | 0.52-0.77 | 15 | 0.95 | 0.75-1.12 | **0.007** |
| 1 week | 27 | 0.69 | 0.59-0.91 | 13 | 0.62 | 0.54-0.84 | 14 | 0.73 | 0.65-0.94 | 0.13 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Within-Subjects Effects (n= 18)\* | | |
|  |  |  |  |
|  | Median | IQR | P value |
| Baseline | 0.80 | 0.58-0.91 | 0.29 |
| 24 hours | 0.75 | 0.59-0.96 |
| 48 hours | 0.72 | 0.59-0.90 |
| 96 hours | 0.73 | 0.54-1.02 |
| 1 week | 0.68 | 0.59-0.88 |

\*18 fetuses with RUtA and LUtA PI recorded at all 5 time-points. IQR = Interquartile Range

**Supplementary Table 2: Amniotic fluid index (cm) pre and post corticosteroid administration, Dexamethasone versus Betamethasone**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 39 | 13.1 | 4.3 | 16 | 12.1 | 2.7 | 23 | 13.7 | 5.0 | 0.24 |
| 24 hours | 37 | 12.9 | 3.9 | 15 | 12.3 | 3.1 | 22 | 13.2 | 4.4 | 0.49 |
| 48 hours | 35 | 12.5 | 3.8 | 15 | 11.8 | 2.6 | 20 | 13.0 | 4.5 | 0.36 |
| 96 hours | 31 | 13.0 | 4.6 | 14 | 12.4 | 3.9 | 17 | 13.4 | 5.2 | 0.56 |
| 1 week | 28 | 12.3 | 2.9 | 13 | 12.3 | 3.4 | 15 | 12.2 | 2.5 | 0.97 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects (n= 26)\* | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 13) | | Betamethasone (n= 13) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 14.0 | 12.4-15.6 | **0.03** | 12.5 | 2.5 | 15.5 | 4.9 | 0.12 |
| 24 hours | 13.9 | 12.6-15.3 | 12.5 | 3.3 | 15.4 | 3.4 |
| 48 hours | 12.9 | 11.4-14.5 | 12.0 | 2.8 | 13.9 | 4.6 |
| 96 hours | 13.3 | 11.7-15.0 | 12.4 | 4.1 | 14.3 | 4.1 |
| 1 week | 12.4 | 11.2-13.6 | 12.3 | 3.4 | 12.5 | 2.6 |

\*26 (singleton) fetuses with 4-quadrant Amniotic fluid index recorded at all 5 time-points. 95%CI = 95% confidence interval of mean

Supplementary Table 3: Left Myocardial Performance Index pre and post corticosteroid administration, Dexamethasone versus Betamethasone

**(a) Left MPI**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 25 | 0.47 | 0.06 | 17 | 0.47 | 0.05 | 8 | 0.46 | 0.07 | 0.56 |
| 24 hours | 25 | 0.46 | 0.05 | 17 | 0.46 | 0.05 | 8 | 0.45 | 0.04 | 0.83 |
| 48 hours | 19 | 0.47 | 0.06 | 13 | 0.48 | 0.06 | 6 | 0.45 | 0.06 | 0.34 |
| 96 hours | 14 | 0.46 | 0.04 | 7 | 0.46 | 0.04 | 7 | 0.45 | 0.04 | 0.67 |
| 1 week | 17 | 0.47 | 0.04 | 11 | 0.47 | 0.03 | 6 | 0.47 | 0.05 | 0.99 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects (n= 8) † | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 4) | | Betamethasone (n= 4) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 0.49 | 0.41-0.56 | 0.77 | 0.51 | 0.05 | 0.46 | 0.11 | 0.12 |
| 24 hours | 0.46 | 0.42-0.50 | 0.48 | 0.04 | 0.44 | 0.06 |
| 48 hours | 0.47 | 0.43-0.50 | 0.50 | 0.03 | 0.46 | 0.06 |
| 96 hours | 0.46 | 0.41-0.50 | 0.47 | 0.06 | 0.44 | 0.05 |
| 1 week | 0.47 | 0.44-0.51 | 0.49 | 0.01 | 0.46 | 0.06 |

**(b) Isovolumetric Contraction Time (ICT) in milliseconds**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 25 | 31.5 | 5.0 | 17 | 32.4 | 5.3 | 8 | 29.6 | 3.7 | 0.20 |
| 24 hours | 25 | 29.3 | 5.6 | 17 | 30.4 | 6.3 | 8 | 27.0 | 2.5 | 0.07 |
| 48 hours | 18 | 27.7 | 4.3 | 12 | 28.7 | 4.2 | 6 | 25.5 | 3.5 | 0.12 |
| 96 hours | 14 | 29.5 | 4.8 | 7 | 31.8 | 5.7 | 7 | 27.1 | 2.2 | 0.06 |
| 1 week | 17 | 30.7 | 4.7 | 11 | 31.1 | 5.2 | 6 | 30.2 | 3.8 | 0.72 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects (n= 8)\* | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 4) | | Betamethasone (n= 4) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 32.5 | 27.4-37.5 | **0.02** | 36.6 | 4.3 | 28.8 | 5.1 | **0.002** |
| 24 hours | 31.8 | 27.9-35.8 | 35.2 | 4.8 | 27.1 | 3.4 |
| 48 hours | 28.3 | 25.5-31.1 | 30.8 | 3.3 | 25.0 | 2.4 |
| 96 hours | 29.6 | 28.2-30.9 | 33.1 | 1.1 | 25.9 | 1.3 |
| 1 week | 32.6 | 28.7-36.5 | 35.4 | 1.8 | 29.7 | 4.8 |

**(c)** **Isovolumetric Relaxation Time (IRT) in milliseconds**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 25 | 44.9 | 6.3 | 17 | 45.5 | 5.3 | 8 | 43.7 | 8.3 | 0.51 |
| 24 hours | 25 | 47.0 | 5.2 | 17 | 46.7 | 5.6 | 8 | 47.7 | 4.5 | 0.65 |
| 48 hours | 19 | 48.4 | 5.1 | 13 | 48.7 | 3.4 | 6 | 47.5 | 8.0 | 0.73 |
| 96 hours | 14 | 46.3 | 4.5 | 7 | 45.8 | 4.5 | 7 | 46.7 | 4.8 | 0.71 |
| 1 week | 17 | 46.7 | 4.7 | 11 | 47.8 | 4.9 | 6 | 44.8 | 3.9 | 0.23 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects (n= 8)\* | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 4) | | Betamethasone (n= 4) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 43.5 | 35.3-51.7 | 0.30 | 44.5 | 5.7 | 42.5 | 12.2 | 0.88 |
| 24 hours | 44.9 | 40.8-50.0 | 44.0 | 2.8 | 45.8 | 6.0 |
| 48 hours | 46.4 | 40.9-51.8 | 47.5 | 1.0 | 45.3 | 8.8 |
| 96 hours | 46.3 | 41.2-51.4 | 44.8 | 5.2 | 47.8 | 6.4 |
| 1 week | 44.5 | 41.1-48.0 | 45.7 | 4.4 | 43.4 | 3.6 |

**(d)** **Ejection Time (ET) in milliseconds**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 25 | 163.9 | 10.8 | 17 | 165.5 | 11.7 | 8 | 160.4 | 8.1 | 0.28 |
| 24 hours | 25 | 167.4 | 8.8 | 17 | 168.5 | 9.6 | 8 | 165.0 | 6.9 | 0.38 |
| 48 hours | 19 | 162.9 | 11.6 | 13 | 162.8 | 12.4 | 6 | 162.9 | 11.0 | 0.99 |
| 96 hours | 14 | 166.1 | 9.8 | 7 | 169.1 | 9.0 | 7 | 163.1 | 10.3 | 0.27 |
| 1 week | 17 | 164.3 | 9.8 | 11 | 166.8 | 7.4 | 6 | 159.7 | 12.6 | 0.16 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects (n= 8)\* | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 4) | | Betamethasone (n= 4) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 156.8 | 149.2-164.4 | **0.03** | 158.8 | 12.1 | 154.9 | 2.5 | 0.91 |
| 24 hours | 165.2 | 160.7-169.7 | 164.1 | 5.1 | 166.3 | 5.4 |
| 48 hours | 160.1 | 152.8-167.3 | 155.9 | 6.8 | 164.3 | 9.7 |
| 96 hours | 168.9 | 160.2-177.6 | 169.8 | 8.9 | 167.9 | 11.1 |
| 1 week | 163.3 | 152.9-173.8 | 167.0 | 5.9 | 159.7 | 16.0 |

\* 8 fetuses with LMPI and its subcomponents recorded at all 5 time-points. 95%CI = 95% confidence interval of mean

Supplementary Table 4: Right Myocardial Performance Index and subcomponents pre and post corticosteroid administration, Dexamethasone versus Betamethasone

**(a) Right Myocardial Performance Index (RMPI)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 21 | 0.49 | 0.07 | 13 | 0.51 | 0.07 | 8 | 0.46 | 0.07 | 0.10 |
| 24 hours | 19 | 0.46 | 0.07 | 13 | 0.46 | 0.05 | 6 | 0.47 | 0.11 | 0.84 |
| 48 hours | 19 | 0.45 | 0.08 | 13 | 0.45 | 0.09 | 6 | 0.45 | 0.07 | 0.99 |
| 96 hours | 12 | 0.47 | 0.07 | 5 | 0.47 | 0.08 | 7 | 0.47 | 0.07 | 0.97 |
| 1 week | 12 | 0.47 | 0.04 | 6 | 0.46 | 0.04 | 6 | 0.49 | 0.04 | 0.16 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects  (n= 7)\* | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 4) | | Betamethasone (n= 3) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 0.52 | 0.47-0.58 | **0.04** | 0.54 | 0.06 | 0.50 | 0.05 | 0.60 |
| 24 hours | 0.43 | 0.35-0.51 | 0.46 | 0.03 | 0.40 | 0.13 |
| 48 hours | 0.46 | 0.39-0.52 | 0.47 | 0.04 | 0.45 | 0.09 |
| 96 hours | 0.47 | 0.40-0.54 | 0.50 | 0.05 | 0.44 | 0.09 |
| 1 week | 0.48 | 0.43-0.52 | 0.45 | 0.04 | 0.50 | 0.05 |

**(b) ‘a’ interval (in milliseconds) of RMPI**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 21 | 242.6 | 12.6 | 13 | 246.5 | 12.8 | 8 | 236.2 | 9.7 | 0.07 |
| 24 hours | 20 | 245.6 | 12.0 | 14 | 244.8 | 12.1 | 6 | 247.3 | 12.7 | 0.69 |
| 48 hours | 19 | 238.8 | 11.7 | 13 | 237.9 | 9.3 | 6 | 240.8 | 16.7 | 0.70 |
| 96 hours | 12 | 240.8 | 11.0 | 5 | 241.9 | 7.0 | 7 | 240.0 | 13.7 | 0.79 |
| 1 week | 13 | 242.8 | 9.1 | 7 | 242.0 | 4.6 | 6 | 243.8 | 13.0 | 0.76 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects  (n= 7)\* | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 4) | | Betamethasone (n= 3) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 238.8 | 226.8-250.8 | 0.58 | 243.5 | 10.6 | 234.1 | 14.4 | 0.11 |
| 24 hours | 241.6 | 234.0-249.2 | 246.0 | 10.0 | 237.2 | 1.3 |
| 48 hours | 235.8 | 228.6-242.9 | 241.4 | 9.0 | 230.1 | 3.4 |
| 96 hours | 242.0 | 233.3-250.8 | 243.0 | 7.6 | 241.0 | 10.6 |
| 1 week | 238.6 | 230.9-246.4 | 243.5 | 5.4 | 233.8 | 10.6 |

**(c)** **‘b’ interval (in milliseconds) of RMPI**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Individual time points | | | | | | | | | |
|  | All | | | Dexamethasone | | | Betamethasone | | | P value |
|  | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| Baseline | 21 | 162.9 | 7.3 | 13 | 163.2 | 6.8 | 8 | 162.4 | 8.5 | 0.82 |
| 24 hours | 19 | 168.5 | 10.2 | 13 | 168.2 | 9.8 | 6 | 169.2 | 12.1 | 0.85 |
| 48 hours | 19 | 165.2 | 9.7 | 13 | 164.7 | 9.3 | 6 | 166.3 | 11.4 | 0.74 |
| 96 hours | 12 | 164.7 | 11.3 | 5 | 165.3 | 10.5 | 7 | 164.2 | 12.7 | 0.87 |
| 1 week | 12 | 165.1 | 8.9 | 6 | 166.6 | 7.4 | 6 | 163.6 | 10.6 | 0.58 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Within-Subjects Effects  (n= 7)\* | | | Between-Subjects Effects | | | | |
|  |  |  |  | Dexamethasone (n= 4) | | Betamethasone (n=3) | |  |
|  | Mean | 95%CI | P value | Mean | SD | Mean | SD | P value |
| Baseline | 156.9 | 152.8-161.1 | 0.10 | 158.3 | 3.4 | 155.6 | 5.2 | 0.25 |
| 24 hours | 169.4 | 158.7-180.2 | 169.0 | 5.9 | 169.9 | 15.7 |
| 48 hours | 161.8 | 156.1-167.5 | 164.5 | 3.3 | 159.1 | 8.3 |
| 96 hours | 164.8 | 156.7-172.9 | 162.6 | 9.8 | 167.1 | 5.2 |
| 1 week | 161.8 | 153.6-169.9 | 168.1 | 8.3 | 155.4 | 8.3 |

\* 7 fetuses with RMPI and its subcomponents recorded at all 5 time-points. 95%CI = 95% confidence interval of mean

Supplementary Table 5: Cardiotocograph (CTG) results

(a) At baseline (pre-corticosteroid)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All fetuses (total n = 47) | Dexamethasone (24 fetuses) | Betamethasone (23 fetuses) | P value\* |
| -CTG performed  -Per protocol | 37 (78)  29 (62) | 18 (75)  14 (58) | 19 (83)  15 (65) | 0.72  0.63 |
| Reason for no CTG:  - ≤26 weeks  - Delivered  - Outpatient  - Unknown | 9 (90)  0 (0)  0 (0)  1 (10) | 6 (100)  0 (0)  0 (0)  0 (0) | 3 (75)  0 (0)  0 (0)  1 (25) | 0.40 |
| Singleton CTG  Twin CTG | 31 (84)  6 (16) | 12 (67)  6 (33) | 19 (100)  0 (0) | **0.01** |
| Baseline, bpm | 140.8 ± 6.4 | 139.7 ± 5.8 | 141.9 ± 6.9 | 0.30 |
| Normal variability, n (%)  Variability, bpm  <5  5-9  10-14  15-19  Uninterpretable | 35 (96) † n=36  1 (3)  26 (70)  8 (22)  1 (3)  1 (3) | 17/18 (94) †  1 (6)  11 (61)  6 (33)  0 (0)  1 (6) | 18/18 (100) †  0 (0)  15 (79)  2 (11)  1 (5)  1 (5) | 1.0  1.0 |
| Reactive  Non-reactive  Uninterpretable | 31 (84)  4 (11)  2 (5) | 15 (83)  3 (17)  0 (0) | 16 (84)  1 (5)  2 (11) | 1.0 |
| Decelerations  No decelerations  Uninterpretable | 1 (3)  33 (89)  3 (8) | 0 (0)  17 (94)  1 (6) | 1 (5)  16 (84)  2 (11) | 1.0 |
| Contractions  -Nil  -Irregular  -Regular  -Uninterpretable | 22 (59)  8 (22)  4 (11)  3 (8) | 11 (61)  5 (28)  2 (11)  0 (0) | 11 (58)  3 (16)  2 (11)  3 (16) | 0.32 |
| Classification  -Reassuring  -Non-Reassuring  -Abnormal  -Uninterpretable | 18 (49)  16 (43)  1 (3)  2 (5) | 8 (44)  9 (50)  1 (6)  0 (0) | 10 (53)  7 (37)  0 (0)  2 (11) | 0.33 |
| CTG non-reassuring or abnormal:  -Due to contractions  -Other/additional feature | 11 (64)  6 (36) | 6 (60)  4 (40) | 5 (71)  2 (29) | 1.0 |

\* Dexamethasone versus Betamethasone; bpm = beats per minute; † variability uninterpretable 1 fetus in each group

**(b) 24 hours post-corticosteroid**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All fetuses (total n = 47) | Dexamethasone (total fetuses n = 24 ) | Betamethasone (total fetuses n = 23) | P value\* |
| -CTG performed  -Per protocol | 36 (77)  28 (60) | 18 (75)  12 (50) | 18 (78)  16 (70) | 0.79  0.17 |
| Reason for no CTG:  - ≤26 weeks  - Delivered  - Outpatient  - Unknown | 9 (82)  0 (0)  0 (0)  2 (18) | 6 (100)  0 (0)  0 (0)  0 (0) | 3 (60)  0 (0)  0 (0)  2 (40) | 0.18 |
| Singleton CTG  Twin CTG | 30 (83)  6 (17) | 12 (67)  6 (33) | 18 (100)  0 (100) | **0.02** |
| Baseline, bpm | 137.0 ± 8.3 | 134.9 ± 8.8 | 139.2 ± 7.3 | 0.12 |
| Normal variability, n(%)  Variability, bpm  <5  5-9  10-14  15-19 | 36 (100)  0 (0)  24 (67)  12 (33)  0 (0) | 18 (100)  0 (0)  13 (72)  5 (28)  0 (0) | 18 (100)  0 (0)  11 (61)  7 (39)  0 (0) | 1.0  1.0 |
| Reactive  Non-Reactive  Uninterpretable | 32 (89)  3 (8)  1 (3) | 16 (89)  1 (6)  1 (6) | 16 (89)  2 (11)  0 (0) | 1.0 |
| Decelerations  No Decelerations  Uninterpretable | 0 (0)  33 (92)  3 (8) | 0 (0)  17 (94)  1 (6) | 0 (0)  16 (89)  2 (11) | 1.0 |
| Contractions  -Nil  -Irregular  -Regular  -Uninterpretable | 29 (81)  1 (3)  6 (17)  0 (0) | 13 (72)  0 (0)  5 (28)  0 (0) | 16 (89)  1 (6)  1 (6)  0 (0) | 0.14 |
| Classification  -Reassuring  -Non-Reassuring  -Abnormal  -Uninterpretable | 24 (67)  9 (25)  0 (0)  3 (8) | 10 (56)  6 (33)  0 (0)  2 (11) | 14 (78)  3 (17)  0 (0)  1 (6) | 0.37 |
| CTG non-reassuring or abnormal:  -Due to contractions  -Other/additional feature | 7 (78)  2 (22) | 5 (83)  1 (17) | 2 (66)  1 (33) | 1.0 |

\* Dexamethasone versus Betamethasone; bpm = beats per minute

(c) 48 hours post-corticosteroid

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All fetuses (total n = 47) | Dexamethasone (total fetuses n = 24 ) | Betamethasone (total fetuses n = 23) | P value\* |
| -CTG performed  -Per protocol | 36 (77)  27 (57) | 18 (75)  11 (46) | 18 (78)  16 (70) | 0.79  0.10 |
| Reason for no CTG:  - ≤26 weeks  - Delivered  - Outpatient  - Unknown | 9 (82)  1 (9)  0 (0)  1 (9) | 6 (0)  0 (0)  0 (0)  0 (0) | 3 (60)  1 (20)  0 (0)  1 (20) | 0.23 |
| Singleton CTG  Twin CTG | 30 (83)  6 (17) | 12 (67)  6 (33) | 18 (100)  0 (0) | **0.02** |
| Baseline, bpm | 140.8 ± 8.2 | 140.3 ± 8.6 | 141.4 ± 8.0 | 0.69 |
| Normal variability, n (%)  Variability, bpm  <5  5-9  10-14  15-19 | 32 (89)  4 (11)  26 (72)  6 (17)  0 (0) | 16 (89)  2 (11)  13 (72)  3 (17)  0 (0) | 16 (89)  2 (11)  13 (72)  3 (17)  0 (0) | 1.0  1.0 |
| Reactive  Non-Reactive  Uninterpretable | 29 (81)  7 (19)  0 (0) | 14 (78)  4 (22)  0 (0) | 15 (83)  3 (17)  0 (0) | 1.0 |
| Decelerations  No Decelerations  Uninterpretable | 1 (3)  34 (94)  1 (3) | 0 (0)  18 (100)  0 (0) | 1 (6)  16 (89)  1 (6) | 1.0 |
| Contractions  -Nil  -Irregular  -Regular  -Uninterpretable | 23 (64)  9 (24)  2 (6)  2 (6) | 11 (61)  4 (22)  2 (11)  1 (6) | 12 (67)  5 (28)  0 (0)  1 (6) | 0.54 |
| Classification  -Reassuring  -Non-Reassuring  -Abnormal  -Uninterpretable | 19 (53)  12 (36)  4 (11)  1 (3) | 9 (50)  7 (39)  2 (11)  0 (0) | 10 (56)  5 (28)  2 (11)  1 (6) | 0.71 |
| CTG non-reassuring or abnormal:  -Due to contractions  -Other/additional feature | 9 (56)  7 (44) | 5 (56)  4 (44) | 4 (57)  3 (43) | 1.0 |

\* Dexamethasone versus Betamethasone; bpm = beats per minute

**(d) 96 hours post-corticosteroid**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All fetuses (total n = 47) | Dexamethasone (total fetuses n = 24 ) | Betamethasone (total fetuses n = 23) | P value\* |
| -CTG performed  -Per protocol | 20 (43)  19 (40) | 9 (38)  8 (33) | 11 (48)  11 (48) | 0.47  0.31 |
| Reason for no CTG:  - ≤26 weeks  - Delivered  - Outpatient  - Unknown | 9 (33)  6 (33)  11 (41)  1 (4) | 6 (40)  3 (20)  6 (40)  0 (0) | 3 (25)  3 (25)  5 (42)  1 (8) | 0.62 |
| Singleton CTG  Twin CTG | 16 (80)  4 (20) | 5 (56)  4 (44) | 11 (100)  0 (0) | **0.03** |
| Baseline, bpm | 144.0 ± 7.6 | 141.7 ± 6.1 | 146.0 ± 8.4 | 0.22 |
| Normal variability, n (%)  Variability, bpm  <5  5-9  10-14  15-19  Uninterpretable | 19 (100) n=19†  0 (0)  15 (75)  4 (20)  0 (0)  1 (5) | 9 (100)  0 (0)  7 (78)  2 (22)  0 (0)  0 (0) | 10 (100)  0 (0)  8 (73)  2 (18)  0 (0)  1 (9) | 1.0  1.0 |
| Reactive  Non-Reactive  Uninterpretable | 18 (90)  1 (5)  1 (5) | 9 (100)  0 (0)  0 (0) | 9 (82)  1 (9)  1 (9) | 0.48 |
| Decelerations  No Decelerations  Uninterpretable | 3 (16)  16 (84)  1 (5) | 1 (11)  8 (89)  0 (0) | 2 (18)  8 (73)  1 (9) | 1.0 |
| Contractions  -Nil  -Irregular  -Regular  -Uninterpretable | 13 (68)  4 (21)  3 (16)  1 (5) | 5 (56)  3 (33)  2 (22)  0 (0) | 8 (73)  1 (9)  1 (9)  1 (9) | 0.39 |
| Classification  -Reassuring  -Non-Reassuring  -Abnormal  -Uninterpretable | 12 (60)  7 (35)  0 (0)  1 (5) | 6 (67)  3 (33)  0 (0)  0 (0) | 6 (55)  4 (36)  0 (0)  1 (9) | 0.62 |
| CTG non-reassuring or abnormal:  -Due to contractions  -Other/additional feature | 5 (71)  2 (29) | 3 (100)  0 (0) | 2 (50)  2 (50) | 0.43 |

\* Dexamethasone versus Betamethasone; bpm = beats per minute; †Variability uninterpretable in 1 Betamethasone group fetus

**(e) 1 week post-corticosteroid**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All fetuses (total n = 47) | Dexamethasone (total fetuses n = 24 ) | Betamethasone (total fetuses n = 23) | P value\* |
| -CTG performed  -Per protocol | 18 (38)  18 (38) | 9 (38)  9 (38) | 9 (39)  9 (39) | 0.91  0.91 |
| Reason for no CTG:  - ≤26 weeks  - Delivered  - Outpatient  - Unknown | 9 (31)  13 (45)  6 (21)  1 (3) | 6 (40)  6 (40)  3 (20)  0 (0) | 3 (21)  7 (50)  3 (21)  1 (7) | 0.56 |
| Singleton CTG  Twin CTG | 16 (89)  2 (11) | 7 (78)  2 (22) | 9 (100)  0 (0) | 0.47 |
| Baseline, bpm | 144.5 ± 9.7 | 141.3 ± 11.3 | 148.6 ± 5.6 | 0.14 |
| Normal variability, n (%)  Variability, bpm  <5  5-9  10-14  15-19  Uninterpretable | 17 (100) n=17†  0  12 (67)  3 (17)  2 (11)  1 (6) | 9 (100)  0 (0)  7 (78)  2 (22)  0 (0)  0 (0) | 8 (100)  0 (0)  5 (56)  1 (11)  2 (22)  1 (11) | 1.0  1.0 |
| Reactive  Non-Reactive  Uninterpretable | 17 (94)  0 (0)  1 (6) | 9 (100)  0 (0)  0 (0) | 8 (89)  0 (0)  1 (11) | 1.0 |
| Decelerations  No Decelerations  Uninterpretable | 0 (0)  15 (83)  3 (17) | 0 (0)  9 (100)  0 (0) | 0 (0)  6 (67)  3 (33) | 1.0 |
| Contractions  -Nil  -Irregular  -Regular  -Uninterpretable | 11 (61)  5 (28)  0 (0)  2 (11) | 4 (44)  5 (56)  0 (0)  0 (0) | 7 (78)  0 (0)  0 (0)  2 (22) | **0.02** |
| Classification  -Reassuring  -Non-Reassuring  -Abnormal  -Uninterpretable | 11 (61)  5 (28)  0 (0)  2 (11) | 4 (44)  5 (56)  0 (0)  0 (0) | 7 (78)  0 (0)  0 (0)  2 (22) | **0.02** |
| CTG non-reassuring or abnormal:  -Due to contractions  -Other/additional feature | 5 (100)  0 (0) | 5 (100)  0 (0) | N/A  N/A |  |

\* Dexamethasone versus Betamethasone; bpm = beats per minute; †Variability uninterpretable in 1 Betamethasone group fetus

**Supplementary Table 6:** Umbilical artery PI pre-and post-corticosteroid administration, fetal concerns versus no fetal concerns at baseline

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Individual time points** | | | | | | | | | |
|  | **All** | | | **Fetal concerns** | | | **No fetal concerns** | | | **P value** |
|  | **N** | **Mean** | **SD** | **N** | **Mean** | **SD** | **N** | **Mean** | **SD** |
| **Baseline** | 45 | 1.05 | 0.20 | 11 | 1.21 | 0.20 | 34 | 1.00 | 0.18 | **0.002** |
| **24 hours** | 46 | 1.01 | 0.23 | 12 | 1.22 | 0.26 | 34 | 0.94 | 0.18 | **<0.001** |
| **48 hours** | 43 | 1.04 | 0.26 | 11 | 1.27 | 0.25 | 32 | 0.97 | 0.22 | **<0.001** |
| **96 hours** | 35 | 1.03 | 0.21 | 6 | 1.21 | 0.13 | 29 | 0.99 | 0.20 | 0.21 |
| **1 week** | 32 | 1.02 | 0.18 | 5 | 1.16 | 0.14 | 27 | 1.00 | 0.18 | 0.16 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Between subjects effects\*** | | | | | |
|  | **Fetal concerns at baseline (n = 4)** | | **No fetal concerns (n = 26)** | |  |
| **Mean** | **SD** | **Mean** | **SD** | **P value** |
| **Baseline** | 1.11 | 0.15 | 1.01 | 0.18 | 0.11 |
| **24 hours** | 1.09 | 0.08 | 0.99 | 0.17 |
| **48 hours** | 1.14 | 0.08 | 1.00 | 0.21 |
| **96 hours** | 1.17 | 0.08 | 1.00 | 0.21 |
| **1 week** | 1.18 | 0.16 | 1.00 | 0.18 |

**\* 30 fetuses with UA PI recorded at all 5 time-points.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Post-hoc Between subjects effects†** | | | | | |
|  | **Fetal concerns at baseline**  **(n = 10)** | | **No fetal concerns**  **(n = 32)** | |  |
|  | **Mean** | **SD** | **Mean** | **SD** | **P value** |
| **Baseline** | 1.23 | 0.20 | 1.00 | 0.18 | **<0.001** |
| **24 hours** | 1.22 | 0.26 | 0.94 | 0.18 |
| **48 hours** | 1.24 | 0.24 | 0.97 | 0.22 |

**† 42 fetuses with UA PI recorded at all 3 time-points.**

**Supplementary Table 7:** Middle cerebral artery pulsatility index (MCA PI),pre-and post-corticosteroid administration, fetal concerns versus no fetal concerns at baseline

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Individual time points** | | | | | | | | | |
|  | **All** | | | **Fetal concerns** | | | **No fetal concerns** | | | **P value** |
|  | **N** | **Mean** | **SD** | **N** | **Mean** | **SD** | **N** | **Mean** | **SD** |
| **Baseline** | 43 | 1.84 | 0.32 | 11 | 1.60 | 0.38 | 32 | 1.93 | 0.26 | **0.003** |
| **24 hours** | 43 | 1.80 | 0.35 | 11 | 1.51 | 0.32 | 32 | 1.90 | 0.30 | **0.001** |
| **48 hours** | 42 | 1.81 | 0.38 | 11 | 1.52 | 0.43 | 31 | 1.91 | 0.31 | **0.002** |
| **96 hours** | 34 | 1.81 | 0.31 | 7 | 1.66 | 0.40 | 27 | 1.85 | 0.27 | 0.14 |
| **1 week** | 30 | 1.88 | 0.23 | 3 | 1.95 | 0.43 | 27 | 1.87 | 0.21 | 0.58 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Between subjects effects\*** | | | | | |
|  | **Fetal concerns at baseline (n = 2)** | | **No fetal concerns**  **(n = 27)** | |  |
| **Mean** | **SD** | **Mean** | **SD** | **P value** |
| **Baseline** | 1.92 | 0.43 | 1.96 | 0.25 | 0.52 |
| **24 hours** | 1.96 | 0.40 | 1.96 | 0.30 |
| **48 hours** | 2.21 | 0.53 | 1.9 | 0.22 |
| **96 hours** | 2.02 | 0.53 | 1.86 | 0.27 |
| **1 week** | 1.94 | 0.61 | 1.90 | 0.20 |

**\* 29 fetuses with MCA PI recorded at all 5 time-points.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Post-hoc Between subjects effects†** | | | | | |
|  | **Fetal concerns at baseline (n = 10)** | | **No fetal concerns**  **(n = 29)** | |  |
| **Mean** | **SD** | **Mean** | **SD** | **P value** |
| **Baseline** | 1.58 | 0.40 | 1.94 | 0.26 | **<0.001** |
| **24 hours** | 1.49 | 0.33 | 1.92 | 0.30 |
| **48 hours** | 1.52 | 0.45 | 1.91 | 0.24 |

**† 39 fetuses with MCA PI recorded at all 3 time-points.**

APPENDIX: SUPER-A\*STEROID DATA FORM

Hospital Record No: …………………………………………………………..

Recruitment Hospital: …………………………………………………………..

Date of birth: …………………………………………………………..

Maternal age: …………………………………………………………..

A\*STEROID study number: …………………………………………………………..

A\*STEROID treatment pack number: …………………………………………………………..

Date of first A\*STEROID medication injection:…………………………………………………..

Time of first A\*STEROID medication injection:…………………………………………………..

Gestational Age (wks/days) at trial entry: 🞏🞏 / 🞏

Reasons why at risk of preterm birth <34 weeks (tick all that apply)

* Placenta praevia
* Placental abruption
* Indeterminate APH
* PPROM
* Preterm labour
* Severe IUGR requiring delivery
* Pre-eclampsia/eclampsia
* Twin-twin transfusion syndrome
* Cervical incompetence
* Other, specify …………………………………………………………………………………….

If IUGR:

Estimated fetal weight at most recent ultrasound 🞏🞏🞏🞏g Centile 🞏🞏%

Abnormal Dopplers: 🞏 Yes (tick all that apply below) 🞏 No

🞏 Increased umbilical artery resistance/increased PI

🞏 Absent or intermittent absent end-diastolic flow umbilical artery

🞏 Reversed EFF umbilical artery

🞏 MCA redistribution (decreased PI)

🞏 Abnormal ductus venosus, ………………….

🞏 Notching/high PI uterine arteries, ……………………………………

🞏 Other (e.g. high MCA PSV), specify ………………………………….

Demographics at FIRST ANTENATAL VISIT

# Public patient 🞏 Yes 🞏 No

Gestational Age (wks/days): 🞏🞏 / 🞏 🞏 unknown

Weight (kgs) 🞏🞏🞏 🞏 🞏 unknown

Height (cm) 🞏🞏🞏 🞏 🞏 unknown

# Country of birth 🞏 Australia

🞏 Other, please specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ethnicity

🞏 Caucasian

🞏 Asian

🞏 Aboriginal/TSI

🞏 Maori

🞏 Polynesian

🞏 Unknown

🞏 Other, specify …………………………………………………….

Smoker 🞏 Yes 🞏 No 🞏 Unknown

Previous obstetric history

Gravidity: \_\_\_\_\_\_\_\_\_\_\_ 🞏 TOP No. \_\_\_\_\_\_\_

🞏 MC No. \_\_\_\_\_\_\_

🞏 Ectopic No. \_\_\_\_\_\_\_

Parity (previous pregnancies ≥ 20 wks):

\_\_\_\_\_\_\_\_\_\_\_\_\_

Number of previous pregnancies resulting in:

🞏 Preterm birth

🞏 Preterm PROM

🞏 Stillbirth

🞏 Neonatal death

Current pregnancy dating:

LMP (day/month/year): 🞏🞏 / 🞏🞏 / 🞏🞏 🞏 unknown

Date of U/S <24 wks (day/month/year): 🞏🞏 / 🞏🞏 / 🞏🞏 🞏 unknown

Gestational age at U/S (wks/days) 🞏🞏 / 🞏 🞏 unknown

Number of live in utero babies at trial entry 🞏

If twins, chorionicity:

🞏 DCDA 🞏 MCDA 🞏 MCMA

Pregnancy complications apart from reason for trial entry?

🞏 Yes, ……………………………………………………………………….

🞏 No

Additional maternal antenatal information:

Medications at trial entry apart from study injection:

🞏 Yes 🞏 No

If yes, tick all that apply

🞏 Antihypertensive, ………………………………………………………….(include dose)

🞏 Magnesium sulphate

🞏 Analgesic, ……………………………………………………………………..(include dose)

🞏 Other, …………………………………………………………………………….

History of maternal cardiovascular disease or serious disease likely to affect cardiovascular function?

🞏 Yes, specify ………………………………………………………………………………………………

🞏 No

Date of second A\*STEROID medication injection:…………………………………………………..

Time of second A\*STEROID medication injection:…………………………………………………..

Medications during trial one-week follow-up apart from study injection:

🞏 Yes 🞏 No

If yes, tick all that apply

🞏 Antihypertensive, …………………………………………………………. (include dose and start date)

🞏 Magnesium sulphate …………………………………………………….. (include start date)

🞏 Analgesic, ……………………………………………………………………..(include dose and start date)

🞏 Other, ……………………………………………………………………………(include dose and start date)Baseline ultrasound examination data (24 hours prior-4 hours after steroid administration)

Date of scan: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of scan (24 hr clock): 🞏 🞏 🞏 🞏

Specify timing relative to 1st dose steroids: ……………………………………………………..

🞏 Singleton 🞏 Twin 1 🞏 Twin 2 Chorionicity if twins: ………………………………

Fetal presentation: 🞏 Cephalic 🞏 Breech 🞏 Transverse 🞏 Other

Biometry

BPD: …………………………………………. Centile: …………………………………………..

HC: …………………………………………. Centile: ……………………………………………

AC: …………………………………………. Centile: ……………………………………………

FL: …………………………………………. Centile: ……………………………………………

Doppler measurements FHR: ………..bpm

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Umbilical artery PI |  |  |  |  |
| Umbilical EDF (present/IAEDF/AEDF/REDF) |  |  |  |  |
| Middle cerebral artery PI |  |  |  |  |
| Middle cerebral artery RI |  |  |  |  |
| Middle cerebral artery PSV |  |  |  |  |
| Ductus venosus PIV  DV a wave (N or specify abnormality |  |  |  |  |
| Uterine artery PI   * Rt * Lt |  |  |  |  |
| Uterine artery notching (present/absent/possible)   * Rt * Lt |  |  |  |  |
| Technical concerns Y/N & specify |  | | | |

Myocardial performance index (RHW only)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Right |  |  |  |  |
| Left |  |  |  |  |
| Technical concerns (Y/N and specify) |  |  |  |  |

Placenta 🞏 No praevia 🞏 Marginal praevia 🞏 Major/central praevia

🞏 Anterior 🞏 Posterior 🞏 Fundal

🞏 Central 🞏 Left lateral 🞏 Right lateral

Length (mm) …………………………….. Thickness (mm) ……………………………….

3 vessel umbilical cord 🞏 Yes 🞏 No

Cord insertion:

🞏 Central 🞏 Eccentric (>2cm from margin) 🞏 Marginal (<2cm from edge) 🞏 Velamentous

Placental morphology:

🞏 Normal 🞏 Abnormal, specify ………………………………………………………………..

Biophysical profile Total BPP score: ……………………. (max 8)

AFI DVP ≥2cm 🞏 Yes (score 2) 🞏 No (score 0) 4 quadrant AFI: …………………

Fetal breathing 30 seconds+ observed:

🞏 Yes (score 2) 🞏 No (score 0)

Fetal tone present 🞏 Yes (score 2) 🞏 No (score 0)

Fetal movements 3+ 🞏 Yes (score 2) 🞏 No (score 0)

Sonographer comments:

…………………………………………………………………………………………………………………………………………

Baseline CTG examination

Date of CTG: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of CTG (24 hr clock): 🞏 🞏 🞏 🞏

Specify timing relative to 1st dose steroids: ……………………………………………………..

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Baseline: …………………………………………………………………………………..

Variability: …………………………………………………………………………………...

Acceleration criteria met (2+ during 10 minute period):

🞏 Yes 🞏 No Comments ……………………………………………….

Decelerations present

🞏 Yes 🞏 No Comments …………………………………………………

STV reading (computerized CTG) ……………………………………………………….

Dawes/Redman criteria met:

🞏 Yes 🞏 No

CTG classification

🞏 Normal

🞏 Suspicious, Dawes-Redman criteria met

🞏 Suspicious, Dawes-Redman criteria not met

🞏 Pathological

If other than normal, action taken

………………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………………………

Ultrasound follow-up 1: 24 hours (range 18-32 hours) after 1st dose administration

Date of US: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of US (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

Second dose steroids given already? 🞏 Yes 🞏 No

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Dopplers FHR: ………..bpm

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Umbilical artery PI |  |  |  |  |
| Umbilical EDF (present/IAEDF/AEDF/REDF) |  |  |  |  |
| Middle cerebral artery PI |  |  |  |  |
| Middle cerebral artery RI |  |  |  |  |
| Middle cerebral artery PSV |  |  |  |  |
| Ductus venosus PIV  DV a wave (N or specify abnormality |  |  |  |  |
| Uterine artery PI   * Rt * Lt |  |  |  |  |
| Uterine artery notching (present/absent/possible)   * Rt * Lt |  |  |  |  |
| Technical concerns Y/N & specify |  | | | |

Myocardial performance index (RHW only)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Right |  |  |  |  |
| Left |  |  |  |  |
| Technical concerns (Y/N and specify) |  |  |  |  |

Biophysical profile

AFI DVP ≥2cm 🞏 Yes (score 2) 🞏 No (score 0) 4 quadrant AFI: …………………

Fetal breathing 30 seconds+ observed:

🞏 Yes (score 2) 🞏 No (score 0)

Fetal tone present 🞏 Yes (score 2) 🞏 No (score 0)

Fetal movements 3+ 🞏 Yes (score 2) 🞏 No (score 0)

Total BPP score: ……………………. (max 8)

Sonographer comments:

…………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………

CTG Follow-up 1: 24 hours after 1st dose (range 18-32 hrs)

Date of CTG: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of CTG (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

Second dose steroids given already? 🞏 Yes 🞏 No

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Baseline: …………………………………………………………………………………..

Variability: …………………………………………………………………………………...

Acceleration criteria met (2+ during 10 minute period):

🞏 Yes 🞏 No Comments ……………………………………………….

Decelerations present

🞏 Yes 🞏 No Comments …………………………………………………

STV reading (computerized CTG) ……………………………………………………….

Dawes/Redman criteria met:

🞏 Yes 🞏 No

CTG classification

🞏 Normal

🞏 Suspicious, Dawes-Redman criteria met

🞏 Suspicious, Dawes-Redman criteria not met

🞏 Pathological

If other than normal, action taken

………………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………………………

Ultrasound follow-up 2: 48 hours (range 42-54 hours) after 1st dose administration

Date of US: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of US (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Dopplers FHR: ………..bpm

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Umbilical artery PI |  |  |  |  |
| Umbilical EDF (present/IAEDF/AEDF/REDF) |  |  |  |  |
| Middle cerebral artery PI |  |  |  |  |
| Middle cerebral artery RI |  |  |  |  |
| Middle cerebral artery PSV |  |  |  |  |
| Ductus venosus PIV  DV a wave (N or specify abnormality |  |  |  |  |
| Uterine artery PI   * Rt * Lt |  |  |  |  |
| Uterine artery notching (present/absent/possible)   * Rt * Lt |  |  |  |  |
| Technical concerns Y/N & specify |  | | | |

Myocardial performance index (RHW only)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Right |  |  |  |  |
| Left |  |  |  |  |
| Technical concerns (Y/N and specify) |  |  |  |  |

Biophysical profile

AFI DVP ≥2cm 🞏 Yes (score 2) 🞏 No (score 0) 4 quadrant AFI: …………………

Fetal breathing 30 seconds+ observed:

🞏 Yes (score 2) 🞏 No (score 0)

Fetal tone present 🞏 Yes (score 2) 🞏 No (score 0)

Fetal movements 3+ 🞏 Yes (score 2) 🞏 No (score 0)

Total BPP score: ……………………. (max 8)

Sonographer comments:

…………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………

CTG Follow-up 2: 48 hours after 1st dose (range 42-54 hours)

Date of CTG: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of CTG (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Baseline: …………………………………………………………………………………..

Variability: …………………………………………………………………………………...

Acceleration criteria met (2+ during 10 minute period):

🞏 Yes 🞏 No Comments ……………………………………………….

Decelerations present

🞏 Yes 🞏 No Comments …………………………………………………

STV reading (computerized CTG) ……………………………………………………….

Dawes/Redman criteria met:

🞏 Yes 🞏 No

CTG classification

🞏 Normal

🞏 Suspicious, Dawes-Redman criteria met

🞏 Suspicious, Dawes-Redman criteria not met

🞏 Pathological

If other than normal, action taken

………………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………………………

Ultrasound follow-up 3: 96 hours (range 3-5 days) after 1st dose administration

Date of US: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of US (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Dopplers FHR: ………..bpm

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Umbilical artery PI |  |  |  |  |
| Umbilical EDF (present/IAEDF/AEDF/REDF) |  |  |  |  |
| Middle cerebral artery PI |  |  |  |  |
| Middle cerebral artery RI |  |  |  |  |
| Middle cerebral artery PSV |  |  |  |  |
| Ductus venosus PIV  DV a wave (N or specify abnormality |  |  |  |  |
| Uterine artery PI   * Rt * Lt |  |  |  |  |
| Uterine artery notching (present/absent/possible)   * Rt * Lt |  |  |  |  |
| Technical concerns Y/N & specify |  | | | |

Myocardial performance index (RHW only)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Right |  |  |  |  |
| Left |  |  |  |  |
| Technical concerns (Y/N and specify) |  |  |  |  |

Biophysical profile

AFI DVP ≥2cm 🞏 Yes (score 2) 🞏 No (score 0) 4 quadrant AFI: …………………

Fetal breathing 30 seconds+ observed:

🞏 Yes (score 2) 🞏 No (score 0)

Fetal tone present 🞏 Yes (score 2) 🞏 No (score 0)

Fetal movements 3+ 🞏 Yes (score 2) 🞏 No (score 0)

Total BPP score: ……………………. (max 8)

Sonographer comments:

…………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………

CTG Follow-up 3: 96 hours after 1st dose (range 3-5 days)

Date of CTG: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of CTG (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Baseline: …………………………………………………………………………………..

Variability: …………………………………………………………………………………...

Acceleration criteria met (2+ during 10 minute period):

🞏 Yes 🞏 No Comments ……………………………………………….

Decelerations present

🞏 Yes 🞏 No Comments …………………………………………………

STV reading (computerized CTG) ……………………………………………………….

Dawes/Redman criteria met:

🞏 Yes 🞏 No

CTG classification

🞏 Normal

🞏 Suspicious, Dawes-Redman criteria met

🞏 Suspicious, Dawes-Redman criteria not met

🞏 Pathological

If other than normal, action taken

………………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………………………

Ultrasound follow-up 4: 7 days (range 7-10 days) after 1st dose administration – to be performed *prior* to repeat steroids if repeat steroids are intended

Date of US: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of US (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Are repeat steroids planned? 🞏 Yes 🞏 No

Dopplers FHR: ………..bpm

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Umbilical artery PI |  |  |  |  |
| Umbilical EDF (present/IAEDF/AEDF/REDF) |  |  |  |  |
| Middle cerebral artery PI |  |  |  |  |
| Middle cerebral artery RI |  |  |  |  |
| Middle cerebral artery PSV |  |  |  |  |
| Ductus venosus PIV  DV a wave (N or specify abnormality |  |  |  |  |
| Uterine artery PI   * Rt * Lt |  |  |  |  |
| Uterine artery notching (present/absent/possible)   * Rt * Lt |  |  |  |  |
| Technical concerns Y/N & specify |  | | | |

Myocardial performance index (RHW only)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading 1 | Reading 2 | Reading 3 | Agreed reading |
| Right |  |  |  |  |
| Left |  |  |  |  |
| Technical concerns (Y/N and specify) |  |  |  |  |

Biophysical profile

AFI DVP ≥2cm 🞏 Yes (score 2) 🞏 No (score 0) 4 quadrant AFI: …………………

Fetal breathing 30 seconds+ observed:

🞏 Yes (score 2) 🞏 No (score 0)

Fetal tone present 🞏 Yes (score 2) 🞏 No (score 0)

Fetal movements 3+ 🞏 Yes (score 2) 🞏 No (score 0)

Total BPP score: ……………………. (max 8)

Sonographer comments:

…………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………

CTG Follow-up 4: 7 days after 1st dose (range 7-10 days): to be performed *prior* to repeat steroids if repeat steroids are intended

Date of CTG: 🞏🞏 / 🞏🞏 / 🞏🞏 Time of CTG (24 hr clock): 🞏 🞏 🞏 🞏

Hours after 1st dose steroids: 🞏 🞏

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Are repeat steroids planned? 🞏 Yes 🞏 No

Baseline: …………………………………………………………………………………..

Variability: …………………………………………………………………………………...

Acceleration criteria met (2+ during 10 minute period):

🞏 Yes 🞏 No Comments ……………………………………………….

Decelerations present

🞏 Yes 🞏 No Comments …………………………………………………

STV reading (computerized CTG) ……………………………………………………….

Dawes/Redman criteria met:

🞏 Yes 🞏 No

CTG classification

🞏 Normal

🞏 Suspicious, Dawes-Redman criteria met

🞏 Suspicious, Dawes-Redman criteria not met

🞏 Pathological

If other than normal, action taken

………………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………………………

Delivery details

Delivering Hospital: ………………………………………………………………………………..

Differs from trial entry hospital: 🞏 Yes 🞏 No

If yes, tick all that apply:

🞏 Hospital transfer 🞏 Address change 🞏 preference 🞏 Other, specify ………………

Complications (additional to reason for steroid administration) since trial entry:

🞏 Yes, specify ………………………………………………………………

🞏 No

Best estimate of GA at birth (weeks/days): 🞏 🞏 / 🞏

Onset of labour:

🞏 Spontaneous 🞏 Induced 🞏 Caesarean section, no labour

If induced, tick ALL that apply

🞏 PGE2

🞏 Foley catheter

🞏 ARM

🞏 Oxytocin (for induction only, not augmentation)

🞏 Misoprostol

🞏 Other, …………………………………………………………..

If induced, reason for induction

🞏 Post-dates

🞏 Hypertension

🞏 Pre-eclampsia/eclampsia

🞏 IUGR

🞏 PPROM or term PROM

🞏 Other, ……………………………………………………………..

If Caesarean section:

🞏 Elective procedure, no labour

🞏 Emergency Caesarean

🞏 Labour or PROM prior to scheduled date of elective procedure

Reason for Caesarean (tick all that apply):

🞏 Fetal distress 🞏 IUGR

🞏 Breech 🞏 Failure to progress

🞏 Preterm 🞏 Previous C/S

🞏 Hypertension 🞏 Intrapartum haemorrhage

🞏 Pre eclampsia/Eclampsia 🞏 Other, …………………………………………

Maternal length of postnatal stay: 🞏🞏 days

Maternal complications prior to discharge:

🞏 Yes, …………………………………………………………………….

🞏 No

Delivery details: Baby

Delivering Hospital: ………………………………………………

🞏 Singleton 🞏 Twin 1 🞏 Twin 2

Delivery date (d/m/y): 🞏🞏 / 🞏🞏 / 🞏🞏

Time (24 hr clock): 🞏 🞏 🞏 🞏

Gender: 🞏 Male 🞏 Female

Mode of delivery:

🞏 Normal vaginal

🞏 Ventouse

🞏 Forcep

🞏 Vaginal breech

🞏 Caesarean Section

🞏 Other, ……………………………………………

Apgar scores:

🞏 1 min 🞏 5 mins

Placental weight: 🞏🞏🞏🞏 g

Attached deidentified placental histopathology report (including grading of villous maturation if available)

Cord gases:

pH ABG: 🞏.🞏🞏 Base excess ABG: 🞏🞏🞏

pH VBG: 🞏.🞏🞏 Base excess VBG: 🞏🞏🞏

Birthweight: 🞏🞏🞏🞏 Length: 🞏🞏.🞏 cm

Head circumference: 🞏🞏.🞏 cm

Fetal distress on CTG: 🞏 Yes 🞏 No

Stillbirth: 🞏 Yes 🞏 No

If yes, cause of death: ………………………………………………………………………

If available attach deidentified postmortem report

If livebirth:

Duration of hospital stay …………………………………………………………

Level of care required (tick all that apply):

🞏 Postnatal ward

🞏 Level 2/Special Care

🞏 Level 3/NICU care

Neonatal complications (tick all that apply):

🞏 Respiratory distress syndrome/hyaline membrane disease

🞏 Other respiratory diagnosis, ……………………………………………………………………….

🞏 Neonatal infection, ……………………………………………………………………………………

🞏 Intraventricular haemorrhage, grade ………………………………………………………….

🞏 Other intracranial/neurological abnormality, specify ……………………………………

🞏 Retinopathy of prematurity

🞏 Death prior to discharge

🞏 Other, specify …………………………………………………………………………………………….