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| **Abstract Submission** |
| Topic | **09. Infectious Diseases and Immunology** |
| Presentation preference | **e-Poster Presentation** |
| Abstact number | **EAPS-0584** |
| Abstract title | **NON-INFECTIVE INFLUENCES ON A CONTINUOUS PREDICTOR OF INFECTION (HeRO SCORE)** |
|  | **Background and aims**  **HeRO score (a measure of heart rate variability and autonomic influences on heart rate) has been demonstrated to reduce mortality from neonatal sepsis. We operationalise the HeRO score by conducting infection screens when the HeRO score changes by a fixed threshold from baseline. However, HeRO “spikes” do not always correlate with the onset of sepsis and infants are treated unnecessary with antibiotics. We hypothesised that non-infective processes affect the HeRO score and predict HeRO “spikes”.**  **Methods**  **Prospective, observational data for each patient were plotted in chronological order to identify HeRO spikes (Figure 1) and used to study the predictive value of changes of PDA echocardiographic biomarkers and biomarkers of cerebral function (cerebral oxygenation index and aEEG) to HeRO spikes. Data from one time point during day 3 after birth were used to correlate non-infective biomarkers with raw HeRO score irrespective of the presence of infection.**  **Results**  **34 premature neonates [male 20, median BW 0.96 kg (IQR 0.39), GA   26.9 weeks (IQR 2.1)] were included. Non-infective markers had some predictive value for “spikes” (Table 1) and were correlated with HeRO score (expressed as variable, R2, P-value): PDA severity score, 0.141, 0.038; PDA diameter, 0.134, 0.039; aEEG score, 0.150, 0.031; Lactate, 0.548,<0.001; Left ventricular flow, 0.175, 0.017; Left atrium/Aortic ratio, 0.193, 0.012.**  **Conclusions**  **A number of non-infective biomarkers are associated with the HeRO score. We speculate that the imperfect relationship between HeRO score and infections is partially due to alterations in the autonomic nervous system related to PDA, and brain activity as measured by aEEG.** |