Quality Improvement and Patient Safety

**THE SAFE IMPLEMENTATION OF THE KAISER PERMANENTE SEPSIS RISK CALCULATOR IN 4 NEONATAL UNITS**

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**Background** The 2012 Neonatal Early Onset Infection Guideline by National Institute for Clinical Excellent (NICE) [CG149], led to an increase in antibiotic use in well newborns. The Kaiser Permanente Sepsis Risk Calculator (KP-SRC) uses the population’s background incidence of EOS, objective information at birth and the infant’s clinical presentation to evaluate risk of neonatal EOS in infants >34 weeks gestation. This has safely shown to reduce the use of antibiotics. During the COVID-19 pandemic, the local Operational Delivery Network endorsed the use of the KP-SRC.

**Objectives** To show implementation of KP-SRC can safely and effectively reduce the incidence of antibiotic use in well babies over 34 weeks gestation without an increase in missed cases of sepsis.

**Methods** KP-SRC was implemented in 4 neonatal units. KP-SRC is used on all babies with risk factors for infection in accordance with the NICE EOS guideline [CG149] and antibiotics are started according to the recommended outcome. There was slight variation in the parameters used by the units in the calculation of KP-SRC (i.e. Infection incidence rate of 0.8/1000 in 2 units and 0.6/1000 in the other 2 units). Blood culture data during the first seven days of life was provided on a monthly basis by the laboratories.

- Babies < 34 weeks gestation were excluded and clinical details of the remaining babies were reviewed, particularly with respect to positive blood cultures and readmissions following discharge home.

Data was reviewed over a consecutive 5 month period prior to implementation of the KP-SRC (1 Sept 2019 - 31 Jan 2020), and post implementation (1 Sept 2020 - 31 Jan 2021).

**Results** There was a percentage reduction in blood cultures taken in the post KP-SRC implementation period between the 4 units of 52 to 85% (mean 60%).

There were 5 positive blood cultures, all babies were commenced on antibiotics at birth in accordance with the KP-SRC recommendation.

Twenty babies were started on antibiotics after 24 hours of age and received 5 days of antibiotics. Twelve had no risk factors for infection and would not have been picked up by NICE. Of the eight assessed by KP-SRC, two were admitted to the neonatal unit on day 2 with tachypnea but did not require respiratory support. Only one baby was readmitted following discharge and received 5 days of antibiotics. This baby was readmitted on day 7 with apnoea requiring ventilation. There was a history of maternal prolonged rupture of membranes and mild maternal pyrexia but the baby was well in the immediate postnatal period. Blood cultures were negative with normal CRP.

**Conclusions** The KP-SRC can lead to a safe and consistent reduction in the number of well babies receiving antibiotics post-delivery. All babies with positive blood cultures were on antibiotics as guided by the KP-SRC and there were no missed cases of sepsis.

**British Paediatric Allergy Immunity and Infection Group**

**SUPPORTED BREASTFEEDING AMONG WOMEN WITH DIAGNOSED HIV IN THE UK- THE CURRENT PICTURE AND FUTURE CONSIDERATIONS**

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**Background** The current HIV vertical transmission (VT) rate is <0.3% among births to diagnosed women living with HIV (WLHIV) in the UK. The British HIV Association (BHIVA) recommends formula-feeding infants born to WLHIV, eliminating postnatal transmission, but prior to the COVID-19 pandemic also stated that virologically-suppressed treated women with good adherence choosing to breastfeed may be clinically supported to do so. Guidelines on diagnostics for breastfed infants and maternal viral load (VL) monitoring reflected this, but little is understood about how this worked in clinical practice. Globally, data are lacking on breastfeeding by WLHIV in resource-rich settings.

**Objectives** To describe the picture of supported breastfeeding from 2012 to March 2020 in the UK using population-level data, with considerations for clinical practice in the COVID era.

**Methods** The Integrated Screening Outcomes Surveillance Service (ISOSS) conducts surveillance of all pregnancies to WLHIV in the UK and of HIV-diagnosed children <16yrs. Infant feeding intention and actual method have been collected since 2012 with enhanced surveillance of cases of breastfeeding per BHIVA guidelines.

**Results** Among 7187 livebirth deliveries, 135 (1.9%) were reported as having planned and/or supported breastfeeding; 18/135 were in women who breastfed ≥1 infant. Of these 133 pregnancies, 125 (93%) were in women diagnosed pre-pregnancy and 84% (112/133) in women born abroad. Median age at delivery was 35yrs (IQR: 31,40). Breastfeeding duration ranged from 1day-2years.

Enhanced surveillance has been conducted for 102 cases to date. Reason(s) for breastfeeding were known in 81 cases and included: bonding (36), health benefits (36), family pressures (14), disclosure concerns (14) and finance (2) (>1 reason may be reported). Partners were unaware of maternal HIV status in 11/102 cases and GP was unaware in 10/100 (in 2/11, both GP and partner were unaware). There were problems with attendance for monthly VL testing in 22/102 cases.

Breastfeeding was reported to have stopped in 90/102, ongoing in 9/102 and unknown in 3/102 (LTFU). Among 90...