THE INCIDENCE OF NEONATAL INFECTIONS (MENINGITS AND SEPSIS) DURING A 42 YEAR PERIOD, FROM 1975-2016 IN WESTERN PART OF SWEDEN

UNIVERSITY OF
GOTHENBURG

Margrét Johansson Gudjónsdóttir^{1,2}, Elisabet Hentz², Anders Elfvin^{1,2}, Ingemar Tessin², Birger Trollfors³

¹ Division of Neonatology, Department of Paediatrics, Institute of Clinical Sciences, Sahlgrenska Academy, Gothenburg University, Gothenburg, Sweden. ²Department of Neonatology, Queen Silvias Children Hospital, Sahlgrenska University Hospital, Gothenburg, Sweden. ³Department of Pediatrics, Queen Silvias Children Hospital, Sahlgrenska University Hospital, Gothenburg, Sweden

Background

Both sepsis and meningitis are a major cause of morbidity and mortality of newborns. The main neonatal pathogens are *Group B Streptococci* (GBS), *Staphylococcus Aureus* (SA) and *Escherichia Coli* (E. Coli).

Aim

The main aim of this study is to document the incidence of early and late-onset neonatal invasive infections like sepsis and meningitis in Gothenburg, Sweden and five surrounding municipalities over a 42 year period. The study will give information of changes in mortality, morbidity, risk factors and aetiology.

Methods

Information regarding positive culture in blood and cerebral spinal fluid (CSF) among children younger than 28 days was collected from the Clinical Microbiological Laboratory at the Sahlgrenska University Hospital which serves all hospitals in the study area. Patients' characteristics, risk factors, signs and symptoms of infection and outcome were registered. Cases of infection were classified according to infant's age at the time of test taken for culture. Very early-onset, VEO (<24 hours of life), Early-onset, EO (1-6 days of life), and Late onset, LO (7-27 days of life).

Results

Total 1007 episodes identified in 990 infants during the study period. The mean incidence was 3.22 /1000 live births. GBS 22%, SA 20% and E. Coli 10%. Median age 3 days, 243 (24%) VEO, 332 (33%) EO and 432 (43%) LO. Male/female ratio, 572/435 (57%/43%). The median gestational age was 29 weeks and median birthweight 1195 g among the 93 patients that died as a consequence of the infection compared to 37 weeks and 2900g among the patients that survived. The mortality among patients with infection decreased from 15% (1975-1984) to 6% (2007-2016).

Conclusions

The trend is showing a decline in VEO and EO, it could be attributable to the start of a risk-based approach for intrapartum antibiotics in 2008. The premature infant is at increased risk for mortality and opportunistic infections with longer hospital stay.

*E. Coli, Klebsiella, Serratia, Hemophilus influenzae, Hemophilus parainfluenzae, Enterobacter, Pseudomonas, other gram neg. bacteria

**Beta-hemolytic streptococci A and C, Enterococcus, Pneumococcus, Viridans streptococcus sp. Listeria monocytogenes, other gram pos bacteria

***Candida albicans, Candida parapsilosis, Yeast

For additional information, please contact:

Name: Margrét Johansson Gudjónsdóttir

E-mail: margret.johansson.gudjonsdottir@vgregion.se