



Aspects of neonatal septicaemia – prevention and complications

av

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ABSTRACT

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Study I was part of the Extremely Preterm Infants in Sweden Study (EXPRESS), a prospective national study including all infants born <27 weeks in Sweden in 2004-2007 that survived their first year of life (n=497). Neonatal sepsis was evaluated as a risk factor for neonatal morbidities. Definite sepsis was associated with severe bronchopulmonary dysplasia and prolonged hospital stay, but not with a higher risk of retinopathy of prematurity or intraventricular haemorrhage.

Study II was a non-randomized single-centre intervention study evaluating possible preventive effects on coagulase-negative staphylococci (CoNS) sepsis when the scrub the hub method was used. During the intervention period, the incidence of CoNS sepsis decreased from 1.5% to 0% (CI: 0.53-2.58%, p=0.06).

Study III was an in-vitro study evaluating leakage of isopropanol (IPA) and ethanol when alcohol caps and scrub the hub were used to disinfect hubs. Alcohol leakage was measured using gas chromatography. IPA was detected in all samples from cap circuits, and mean leakage increased over time. Ethanol levels were low, and scrub the hub therefore seems safe to use.

Study IV was a survey study evaluating reported hygiene routines from Swedish neonatal intensive care units (NICUs) included in the EXPRESS study. Routines were compared between the EXPRESS period (2004-2007) and 2013. Improvements were seen regarding basic hygiene routines, routines for work clothing, and follow-up of compliance. Antibiotic prophylaxis decreased while fungal prophylaxis increased, but the empiric treatment of suspected late-onset sepsis (LOS) showed heterogeneity.

Study V investigated the association between incidence in LOS in the EXPRESS cohort and the hygiene routines previously evaluated in Study IV. Strict catheter routines, blood culture routines, and non-use of antibiotic prophylaxis were associated with decreased sepsis risk.

Keywords: neonatal sepsis, prevention, coagulase-negative staphylococci, nosocomial, hygiene, neonatal morbidity, alcohol toxicity.

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