New Concepts in Neonatal Sepsis

**NEONATAL SEPSIS, NEW PREVENTIVE STRATEGIES**

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Severe infections represent the main cause of neonatal mortality, accounting for more than 1 million neonatal deaths worldwide every year.

Late-onset infections (occurring after the first 72 h of life) are thought to be caused by horizontally transmitted microorganisms, and may be 1) nosocomial, occurring during hospital stay in NICU, or 2) non-nosocomial, affecting home discharged, otherwise healthy full-term neonates.

1) Strategies to reduce the incidence of infection in NICU include:

i) Reduction of the exposition of newborn infants to pathogens: hand hygiene practices; proper management of central lines; promotion of early enteral feeding with human milk; prophylaxis with lactoferrin and fluconazole.

ii) Improvement of neonatal defenses: lactoferrin and human milk. Cytokines/growth factors (e.g., GM-CSF), and other immune therapies (intravenous Ig, monoclonal anti-staphylococcal antibodies) are currently not recommended for neonates. Future strategies may include: the development of highly specific, broadly neutralising antibodies to be used in high risk infants; and maternal immunisation practices to prevent both late-onset infection and/or infection-related preterm birth.

iii) Identification of high risk infants: this is a central point including, but not limited to, the use of metabolomics for risk stratification.

2) Strategies to prevent infections in otherwise healthy, home discharged full-term neonates

These infections are almost always unpredictable and often severe; future research should focus on the identification of high-risk infants, in order to implement preventive protocols; and on maternal immunisation against common pathogens as a general practice to reduce neonatal vulnerability.

Abstract IS-013 Figure 1: A comprehensive view of the strategies for the prevention of neonatal infections.