Nursing-2013
OMICS Group Conferences
Accelerating Scientific Discovery
International Conference on
Nursing & Emergency Medicine
December 2-4, 2013 Las Vegas, USA

Nursing-2013
OMICS Group Conferences
Accelerating Scientific Discovery
International Conference on
Nursing & Emergency Medicine
December 2-4, 2013 Las Vegas, USA

IVIG in neonatal sepsis: Alea iacta est?

Volker N. Umlauf
University Children's Hospital, Germany

Abstract

With an incidence of 16% and a risk of mortality of 4% sepsis in preterm newborns with a birth weight <1,500 grams remains a burden problem. Preterm infants have decreased immunoglobulin concentrations below protective antibody titers; combined with their immature immune system they have an increased susceptibility for infections and sepsis. IVIg are constituted in sepsis therapy of the adult, but the role of IVIg treatment of neonatal sepsis remains controversial. The 2011 International Neonatal Immunotherapy Study Collaborative Group conclude in their international, placebo controlled, multicentre randomized trial on almost 3,500 preterm infants with a birth weight less than 1,500 grams, that therapy with intravenous immune globulin had no effect on the outcomes of suspected or proven neonatal sepsis. An explanation of failure of immunglobulins in preterms can be found in *in-vitro* studies, explaining the interactions of IVIg and an undeveloped immune system. IVIg is known to inhibit the production of circulating cytokines, the proliferation of activated B and T lymphocytes, and inflammatory activation via a diverse array of mechanisms, and down-modulate the Fcγ III-receptor (CD16). A reduced phagocytosis of opsonized microbes resulted. Recent studies focus on monoclonal antibodies (mAb) against type specific antigens of group b streptococci, which seem to be effective in experimental models of neonatal sepsis as well as *in-vivo* (pagibaximab) against staphylococci. Thus the answer on "Alea iacta est?" is: There is still no advise for the therapeutical application of IVIg in neonatal sepsis. Nevertheless, specific antigens as therapeutic option reveal promising results.

Biography

Volker N. Umlauf, studied medicine at the University of Mainz, Germany, and completed his pediatric residency training at the University Childrens' Hospital Mainz. He is now working as attending pediatrician and attending emergency medicine physician at the Department of Neonatology and Pediatric Intensive Care at University Childrens' Hospital Aachen, Germany. Further focus of his work is in the field of pediatric ultrasound, pediatric rheumatology, nephrology, and immunology/immunodeficiencies. His research focuses on the role of cytokines and toll-like receptors in rheumatic diseases and neonatal sepsis. He is board member of two German-European pediatric immunology societies.

vumlauf@ukaachen.de