HUMAN NEUTROPHIL LIPOCALIN IN EARLY DIAGNOSIS OF NEONATAL SEPSIS

Thesis
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Dedication

This work is dedicated to my parents, my brother Emad and my sisters Safaa and Selvia.

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List Of Abbreviations

ADCC	Antibody-dependent cell-mediated cytotoxicity
AKI	Acute kidney injury
ANC	Absolute neutrophil count
Apo	Apolipoprotein
ARDS	Acute respiratory distress syndrome
BPI	Bactericidal permeability-increasing protein
BUN	Blood urea nitrogen
CKD	Chronic kidney disease
CMV	Cytomegalo virus
CNS	Central nervous system
CoNS	Coagulase-negative staphylococci
CRBP	Cellular retinoid binding proteins
CRP	C-reactive protein
CS	Ceasarean section
CSF	Cerebro spinal fluid
DC	Dendritic cells
DIC	Disseminated intravascular coagulation
E coli	Escherichia coli
EBV	Ebstien Barr Virus
EDTA	Ethylenediaminetetraacetic acid
ELISA	Enzyme linked immunosorbent assay

EOS	Early onset sepsis
FT	Fullterm
GBS	Group B streptococci
G-CSF	Granulocyte-colony stimulating factor
GFR	Glomerular filtration rate
GIT	Gastrointestinal tract
Glu T٤	Glucose transporter ٤
HAI	Health care-associated infections
HDL	High density lipoprotein
HIV	Human immune deficiency virus
HNL	Human neutrophil lipocalin
HSS	Hematological scoring system
HSV	Herpes Simplex Virus
IAI	Intra-amniotic infection
ICAM	Intercellular adhesion molecules
IEM	Inborn Errors of Metabolism
IFN	Interferon
IVH	Intraventricular haemorrhage
IVIG	Intravenous immunoglobulins
LBW	Low birth weight
LOS	Late onset sepsis
LP	Lumbar puncture

MAC	Membrane attack complex
MMP	Matrix metalloproteinase
NBT	Nitro blue tetrazolium
NEC	Necrotizing enterocolitis
NGAL	Neutrophil gelatinase associated lipocalin
NICU	Neonatal intensive care unit
NK	Natural killer
NO	Nitric oxide
NS	Neonatal sepsis
PAI-١	Plasminogen activator inhibitor-١
PCR	Polymerase chain reaction
PCT	Procalcitonin
PGDs	Prostaglandin D synthase
PMN	Polymorphonuclear
PPHN	Persistent pulmonary hypertension of the newborn.
PROM	Premature rupture of membranes
PT	Preterm
RBP	Retinol binding protein
RDS	Respiratory distress syndrome
RSV	Respiratory Syncitial Virus
sICAM	Soluble intracellular adhesion molecule
SIR	Systemic inflammatory response

SPSS	Statistical Package for Social Sciences
SST	Serum separator tube
TAT	Thrombin-antithrombin III complex
TBS	Tris-buffered saline
Th	T helper
TLRs	Toll-like receptors
TNF	Tumour necrosis factor
t-PA	Tissue plasminogen activator
TTR	Transthyretin
uNGAL	Urinary netrophil gelatinase associated lipocalin
UTI	Urinary tract infection
VCAM-١	Vascular cell adhesion molecule-١
VD	Vaginal delivery
VEGP	Von Ebner's gland protein
VLBW	Very low birth weight
VZV	Varicella Zoster Virus

Introduction

Infection is still an important cause of neonatal morbidity and mortality despite development of broad spectrum antibiotics and clinical advances in life support therapy. Factors which contribute to the high susceptibility of newborn infant to infection include prematurity (influence of very low birth weight and also immune immaturity), maternal genital colonization, transplacental spread following maternal infection, traumatic delivery, invasive procedures such as arterial or umbilical catheterization and underlying problems such as heart disease or hyaline membrane disease ***(Eicher and Annibale, ٢٠٠٢).***

For the pediatricians and neonatologists who care for term and preterm infants, the challenge remains to keep these infants free of infection after delivery in special-care nurseries and neonatal intensive care units. Studies of complications associated with term infants at risk due to maternal factors, as well as preterm infants after early delivery, have demonstrated that sepsis is a major cause of neonatal mortality and morbidity ***(Venkatesh and Garcia-Prats, ٢٠٠١).***

Currently initial diagnosis is based upon clinical suspicion accompanied by nonspecific clinical signs and is confirmed upon positive microbiologic culture results several