

Abstract

Tracheal aspirates were isolated from 121 preterm neonates during the first Week of life to isolate mesenchymal stem cells (MSCs) and Transforming growth Factor β 1 (TGF- β) assay to correlate them with the development of Bronchopulmonary dysplasia.

The median number of colonies of MSCs in the BPD group was significantly higher than those without BPD with a p value 0.011 and the median number of Clusters of MSCs in the BPD group was significantly higher than those without BPD

With a p value 0.003.

The median of TGF- β 1 was significantly higher in the BPD group with a p value 0.021.

Key words: mesenchymal stem cells /Preterms/Bronchopulmonary dysplasia.

Predication of Bronchopulmonary Dysplasia by Isolation of Mesenchymal Stromal Cells from Tracheal Aspirates in Preterm Egyptian Neonates

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List of Abbreviations

Abbreviations are written in a descending order of their appearance in the review

FGF	Fibroblast growth factors
BPD	Bronchopulmonary dysplasia
RDS	Respiratory distress syndrome
VEGF	Vascular endothelial growth factor
HCL	Histocompatibility loci
V/Q	Ventilation-perfusion
HMD	Hyaline membrane disease
VLBW	Very low birth weight
RV	Right ventricle
PH	Pulmonary hypertension
NO	Nitrous oxide
FGF	Fibroblast growth factor
CS	Caesarean section
HLA	Histocompatibility loci
SNPs	Single nucleotide polymorphisms
VEGF	Vascular endothelial growth factor
TGF-β1	Transforming growth factor- β 1
TNF-α	Tumor necrosis factor alpha

AOE	Anti-oxidant enzyme system
IL	Interleukin
SOD	Superoxide dismutase
ELF	Epithelial lining fluid
PROPHET	Prophylaxis of Early Adrenal Insufficiency to Prevent Bronchopulmonary Dysplasia
CT	Computed Tomography
TcO2	Transcutaneous oxygen
FRC	Functional residual capacity
PEEP	Positive end expiratory pressure
COIN	Continuous Positive Airway Pressure or Intubation at Birth
CPAP	Continuous positive airway response
SUPPORT	Surfactant Positive Airway Pressure and Pulse Oximetry Trial
PNCS	Postnatal corticosteroids
PTHrP	Parathyroid hormone-related protein
LFA-1	Lymphocyte function-associated antigen 1
MMP	Matrix metalloproteinases
KGF	Keratinocytes growth factor
PHGF	Pulmonary hepatocytes growth factor
ELF	Epithelial lining fluid
IDO	Indoleamine 2,3 dioxygenase
PG	Prostaglandins

TNF	Tumor necrosis factor
DC	Dendritic cells
APC	Antigen presenting cells
GvHD	Graft versus host disease
FCS	Fetal calf cells
DMEM	Dulbecco modified Eagle medium
PGFEP	Platelet growth factor enriched plasma
A1PI	Alpha 1 protinease inhibitor
SDD	Surfactant deficiency disease
CLD	Chronic lung disease
NEC	Necrotizing enterocolitis
IVH	Intraventricular hemorrhage
PVL	Periventricular leucomalacia
ROP	Retinopathy of prematurity
PDA	Patent ductus arteriosus
ACTH	Adreno-cortico-thyroid hormones
GMP	Good manufacturing practices
MHC	Major histocompatibility cells
IF	Interferon
RAS	Renin-angiotensin system
ALI	Acute Lung Injury

ACE	Angiotensin converting enzyme
AT II	Angiotensin II
a1PI	Alpha-1 proteinase inhibitor
FEV1	Forced expiratory volume in 1 second
VLBW	Very low birth weight
CLD	Chronic lung disease
CAP Trial	Caffeine of Prematurity trial
ELBW	Extreme low birth weight
PH	Pulmonary hypertension
CCSP	Clara cell secretory protein
MIF	Macrophage migration inhibitory factor
UCB	Umbilical cord blood
CB	Cord blood
HSC	Hematopoietic stem cells
MIAMI	Marrow-isolated adult multipotent inducible cells
MAPC	Multipotent adult progenitor cells
MASC	Mesenchymal adult stem cells
BMSSC	Bone marrow stromal stem cells
FACS	Fluorescence-activated cell sorting
FCS	Fetal calf serum
HPP- MCFC	High proliferative potential mesenchymal colony forming cells

LPP- MCFC	Low proliferative potential mesenchymal colony forming cells
MCC	Mesenchymal cell clusters
CFU-F	Colony-forming unit fibroblasts
IGFBP	Insulin-like growth factor-binding protein
TIMP	Tissue inhibitor of metalloproteinase
VSM	Vascular smooth muscle.
OI	Osteogenesis Imperfecta
SCI	Spinal cord injury
MSC-CM	MSC-conditioned media
hAFSC	Human amniotic fluid stem cell
Ang1	Angiopoitin-1
PDGF	Platelet- derived growth factor
VEGF	Vascular endothelial growth factor
LAK	Lymphokine-activated killer
LAP	Latency-associated protein

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