COMPARATIVE STUDY OF THE ROLE OF NASAL CONTINUOUS POSITIVE AIRWAY PRESSURE (NCPAP) VERSUS MECHANICAL VENTILATION FOR TREATMENT OF RESPIRATORY DISTRESS IN PRETERM NEONATES

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

" لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا ۚ لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا اكْتَسَبَتْ

ۗ رَبَّنَا لَا تُؤَاخِذْنَا إِنْ نَسِينَا أَوْ أَخْطَأْنَا ۚ رَبَّنَا

وَلَا تَحْمِلْ عَلَيْنَا إِصْرًا كَمَا حَمَلْتَهُ عَلَى الَّذِينَ مِنْ قَبْلِنَا ۚ رَبَّنَا وَلَا

تُحَمِّلْنَا مَا لَا طَاقَةَ لَنَا بِهِ ۖ وَاعْفُ عَنَّا وَاغْفِرْ لَنَا وَارْحَمْنَا ۚ أَنْتَ

مَوْلَانَا فَانْصُرْنَا عَلَى الْقَوْمِ الْكَافِرِينَ"

صدق اللَّهُ العظيم

سورة البقرة

(أية رقم ٢٨٦)

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(Abstract)

Mechanical ventilation is the most widely used supportive technique in intensive care units. Complications can occur at any stage of mechanical ventilation and is sometimes life threatening. Ventilator-Associated Pneumonia is a life-threatening complication with mortality rates of 33-50 %.

The early application of nasal continuous positive airway pressure (nCPAP) reduces the need for subsequent endotracheal intubation, mechanical ventilation, and surfactant therapy and lower overall mortality, especially in infants with birth weight above 1500 grams.

(Key words:

(MV) Mechanical ventilation, (nCPAP) nasal continuous positive airway pressure, (VAP) Ventilator-Associated Pneumonia, (ET) endotracheal intubation, (ICU) intensive care units, surfactant therapy)

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ABBREVIATIONS

(A-a DO_2)	:	Alveolar-arterial oxygen tension gradient
(AAR)	:	American Association for Respiratory Care
(AARC-CPG)	:	American Association for Respiratory Care. Clinical practice guideline:
(AC)	:	Assist/ Control.
(APV)	:	Airway Pressure Release Ventilation
(ARDS)	:	Acute Respiratory Distress Syndrome
(ASB)	:	Assisted Spontaneous Breathing
(ASV)	:	Adaptive Support Ventilation
(ATC)	:	Automatic Tube Compensation
(AV)	:	Assisted Spontaneous Ventilation
(BIPAP)	:	Biphasic Positive Airway Pressure
(BMI)	:	Body Mass Index
(BPD)	:	Bronchopulmonary dysplasia
(BSI)	:	Bloodstream infection
(B-VAP)	:	bacteremic ventilator-associated pneumonia
(CA-UTI)	:	Urinary Catheter-Associated Urinary Tract Infection
(CDC)	:	the Centers for Disease Control
(C_{DYN})	:	dynamic lung compliance
(CI)	:	Confidence Interval
(CLD)	:	Chronic Lung Disease
(CMV)	:	Continuous Mandatory Ventilation
(CNEP)	:	Continuous negative expiratory pressure
(CNP)	:	Continuous Negative Pressure
(CONS)	:	Coagulase negative staphylococci
(CPAP)	:	Continuous Positive Airway Pressure
(CPPV)	:	Continuous Positive Pressure Ventilation

(CR-BSI)	:	central venous catheter related bloodstream infection
(CVC)	:	central venous catheter
(DR)	:	Delivery Room
(EGA)	:	Estimated Gestational Age
(ELBW)	:	Extremely low birth weight
(ENCPAP)	:	Early use of nasal continuous positive airway pressure
(EONI)	:	early-onset neonatal infection
(EOS; " 72 h of age)	:	early onset sepsis
(EPAP)	:	Expiratory Positive Airway Pressure
(ESBL-KP).	:	Extended-spectrum beta-lactamase-producing Klebsiella pneumoniae
(ETT)	:	Endotracheal Tube
(FDO_2)	:	Fractional Concentration Of Delivered Oxygen
(FHO_2)	:	Hypopharyngeal Oxygen Concentrations
(FiO2)	:	Fractional inspired oxygen
(GA)	:	Gestational Age
(GNB)	:	Gram-negative bacilli
(GNR-b)	:	Gram-negative rod bacteremia
(HAL)	:	hyper alimentation
(HFFI)	:	High Frequency Flow Interruption
(HFJV)	:	High Frequency Jet Ventilation
(HFOV)	:	High Frequency Oscillatory Ventilator/Ventilation
(HFPPV)	:	High Frequency Positive Pressure Ventilation
(HFV)	:	High Frequency Ventilation
(HMV)	:	Humidification during Mechanical Ventilation
(I: E)	:	Ratio of inspiratory to expiratory time
(ICH)	:	Intracerebral Hemorrhage

(IFD)	:	Infant Flow Driver
(ILV)	:	Independent Lung Ventilation -- separate sides positive pressure ventilation
(IMPV)	:	Invasive mechanical pulmonary ventilation
(IMV)	:	Intermittent Mandatory Ventilation;
(IPAP)	:	Inspiratory Positive Airway Pressure
(IPPV)	:	Intermittent Positive Pressure Ventilation
(IRV)	:	Inversed Ratio Ventilation -- mechanical ventilation with switched respiration phases/time rate
(IVH)	:	Intraventricular hemorrhage;
(K. pneumoniae)	:	Klebsiella pneumoniae
(KPMCP)	:	Kaiser Permanente Medical Care Program;
(LFPPV)	:	Low Frequency Positive Pressure Ventilation
(LGA)	:	large-for-gestational age
(LOS)	:	late-onset sepsis
(LOS)	:	length of stay
(LOS; >72 h of age)	:	late onset sepsis
(LOV)	:	length of ventilation
(LRTD)	:	lower respiratory tract disease
(MAP)	:	Mean Airway Pressure
(MMV)	:	Mandatory Minute Volume
(MV-SC)	:	Mechanical Ventilator System Checks
(NB-VAP)	:	nonbacteremic VAP
(NC)	:	nasal cannula
(NEC)	:	Necrotizing Enterocolitis
(NF-GNB).	:	Nonfermenting Gram negative bacilli
(NICU)	:	Neonatal intensive care unit
(NIMV)	:	Nasal intermittent mandatory ventilation;
(NIPPV)	:	Nasal Intermittent Positive Pressure Ventilation