

RECOMMENDATIONS

1. Antenatal care should be improved aiming to decrease preterm delivery in order to prevent diseases associated with prematurity as RDS and its sequelae.
2. With the technological advances in preterm care in our NICU, preterm delivery protocols and the age of viability should be revised by our hospital.
3. Antenatal steroids should be used to alter the profile of RDS allowing wider use of non-invasive ventilation reducing damage to the lungs, taking in consideration its desirable and undesirable effects
4. Maternal infection should be early diagnosed and treated to decrease the incidence of congenital pneumonia. Histologic chorioamnionitis (HCA) is known to be associated with poor outcome in preterm infants including early onset sepsis, BPD...etc. therefore, routine placental examination should be done in all preterm infants. The histological diagnosis of chorioamnionitis is of great interest in helping neonatologist's decisions and expectations.
5. Lung injury can occur rapidly and starts in the delivery room .A trained and skilled neonatologist should attend resuscitation of preterm infants, The use of neopuff to apply positive pressure ventilation and the presence of pulse oximeters to guide the use of oxygen are essential to avoid lung injury in the resuscitation room.
6. The use of early CPAP in the delivery room avoids the need for intubation and ventilation in premature infant with spontaneous breathing.
7. VTV was found to be both a safe and effective method of ventilating preterm and very low birth weight newborns with respiratory distress. VTV provides stable tidal volume delivery and leads to reduction in the duration of respiratory support, which is beneficial, especially in very low birth weight infants, who are at increased risk of sustaining complications associated with mechanical ventilation.
8. VTV (targeted tidal volume (TTV) in SLE 4000 and 5000) should be used as an effective mode of mechanical ventilation. VTV can reduce the incidence of hypocarbia and respiratory acidosis and maintain VT within target range more consistently than PLV alone using lower PIP and MAP in both homogenous lung pathology (RDS) and non-homogenous lung pathology (congenital pneumonia). Additionally, TTV is a self-weaning mode, with the microprocessor continuously adjusting the working pressure to maintain the target VT. Therefore, weaning takes place in real time, rather than in response to intermittent blood-gas sampling.
9. It would appear that the consistency of tidal volume delivery during VTV in the face of varying lung compliance, variable respiratory drive and the auto weaning of airway pressure was clinically advantageous
10. Resource-limited and overcrowded NICUs with poor nursing to patient ratios cause lack of adherence to infection control practices especially in preterm ventilated infants leading to overdependence upon antimicrobial agents and so encouraging nosocomial infections and the emergence of multi-drug-resistant nosocomial pathogens. It seems

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economically beneficial that the Hospital administration strategists must increase the finances dedicated for providing enough equipment and supplies, nurse employment and training in order to decrease nosocomial infections and reduce the emergence of multi-drug-resistant nosocomial pathogens

11. Highly trained continuously educated nursing is needed to care for preterm infants in both DR and NICU especially those on mechanical ventilation to improve their outcome.
12. Lung mechanics (compliance, resistance and C20) together with oxygenation indices and ventilation index should be used to evaluate the severity of the resp. disorder and follow the optimality of ventilation. lung mechanics was proved to be important for the clinical decision during ventilation and also for assessing the prognosis and outcome
13. Pulmonary graphics should be used as a tool for therapeutic evaluation of ventilated neonates. Pulmonary graphics in together with clinical, radiological, and blood gas monitoring--changed neonatal ventilation from "good judgment" to "informed judgment
14. Using a combination of knowledge from the fields of engineering and applying these knowledge to the purchase and use of respiratory equipment, to the training of health care providers will undoubtedly maximize the benefits of respiratory care and minimize the potential for caregiver errors.
15. There is a crucial need for a pulmonary laboratory in Alexandria university children hospital to increase the depth of knowledge of the medical personnel in lung mechanics and ventilation of extremely low and very low birth weight preterm infants.

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