The mean pre-ductal saturations were lower than post-ductal saturations in all groups except the group not having a PDA and not on respiratory support (figure 1).

Abstract 1794 Figure 1

Conclusions The site of measurement can affect the observed oxygen saturation values and hence should be taken in account while bedside monitoring and planning clinical trials.

1795 DID VENTILATORY STRATEGY CHANGE DURING THE LAST 5 YEARS IN ITALIAN NEONATAL NETWORK?

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Background Intubation and mechanical ventilation (MV) are life-saving procedures but are associated with a higher incidence of acute and chronic complications. Thus, non-invasive ventilation (NIV: nasal continuous pulmonary distending pressure, nasal ventilation, or high-flow nasal cannula) is increasingly used.

Aim To evaluate changes in ventilatory strategies between 2006 and 2010 in Italian neonatal network (INN).

Methods A cohort of neonates < 30 weeks gestational age (GA) or < 1501 g birth weight (BW), without congenital anomalies, born in 2006 and 2010, assisted in 31 hospitals participating in INN both years, was analysed (N=3459: 1713 in 2006, and 1746 in 2010). Variables were defined according to Vermont-Oxford network. Logistic regressions, adjusting for confounders (GA, BW for GA, antenatal steroids, mode of delivery, multiple pregnancy, 1-minute Apgar score, being inborn, sex, intubation in delivery room, RDS, PDA), and clustering for hospitals, were used.

Results Between 2006 and 2010 there were no changes in GA or BW (2006: mean GA 29.1 wks; BW 1087 g; 2010: GA 29.2 wks; BW 1083 g), while antenatal steroids increased (from 78.5% to 83.5%). The number of infants receiving any ventilatory support increased from 81.8% to 85.9%. After adjusting for confounders, mortality decreased (Odds ratio=0.75, 95% confidence interval 0.57–0.98) as well as mechanical ventilation (OR=0.72, 95%CI 0.57–0.90) and BPD (OR=0.68, 95%CI 0.54–0.86), while NIV increased (OR=1.70, 95%CI 1.41–2.04).

Conclusions In the last 5 years, we observed a reduction of MV and an increase of NIV use. This was accompanied by a decrease in risk-adjusted mortality and BPD.

1796 INCIDENCE OF AND RISK FACTORS FOR AIR LEAKS IN PRETERM INFANTS EXPOSED TO RESTRICTIVE USE OF ENDOTRACHEAL INTUBATION

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Introduction The occurrence of air leaks such as pneumothorax (PTX), pneumopericardium (PPC) and pulmonary interstitial emphysema (PIE) may be a life-threatening condition in preterm infants.

Aim of the Study To study the incidence of and risk factors for air leaks in preterm infants treated with a policy of sustained inflations followed by non-invasive ventilation in the delivery room.

Methods Perinatal variables, variables of delivery room support and respiratory support in the NICU were analyzed retrospectively for infants with/without air leaks in preterm infants < 30 wks GA born 2005–2009 (n=297).

Results Median (range) gestational age was 26+0 (22+4–29+1) wks, birth weight was 790 (265–1660) g and 270/297 (91.0%) survived. 63 (21.2%) developed any air leak, 32 (10.8%) developed PTX, 44 (14.8%) PIE, and 1 (0.3%) PPC. Infants with air leaks had a higher risk for death (18 (28.6%) vs. 9 (3.8%), p<0.01) and for IVH Grade 3–4 (16 (25.4%) vs. 29 (12.4%), p<0.05). Air Leaks were associated with less use of prenatal steroids (44 (69.8%) vs. 199 (85.4%), p<0.01) and a more common use of cardiac compressions (9 (14.3%) vs. 11 (4.7%), p<0.01), use of a pressure of 30 cmH₂O for sustained inflations (32 (55.2%) vs. 80 (36.7%), p<0.05) and intubation during initial resuscitation (34 (54.0%) vs. 60 (25.6%), p<0.01).

Conclusion Air leaks were associated with an increased risk for mortality and severe IVH. Our approach resulted in a high rate of survival but was associated with a substantial rate of air leaks. Randomized trials are necessary further improve delivery room care.

1797 DO NON-INVASIVE VENTILATORY STRATEGIES WORK IN MICRO-PREMATURE INFANTS WHO ARE AT THE LIMITS OF VIABILITY?

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Aim To evaluate the non-invasive ventilatory support in micro-premature infants who are at the limits of viability.

Methods This prospective cohort study from January-2009 to December 2011 included infants born before 26 weeks'. During resuscitation, stabilisation and transport infants were ventilated with a T-piece resuscitator, and all received prophylactic surfactant at a dose of 100 mg/kg. If respiratory drive was present, infants were extubated to NCPAP. The demographic and clinical features of the infants were assessed.

Results Twenty-four infants born during the study period. Antenatal steroid rate was 16.7%. Mean gestational age(GA) and birth weight(BW) were 24.3±0.9 weeks, and 660.2±125.5 g, respectively. The presence of premature rupture of membranes and chorioamnionitis rate was 54%. Only five(21%) of 24 infants could be extubated to NCPAP, and three of these five were intubated in first 3-days. Only two(8.3%) infants succeeded on NCPAP, and the GAs' were 24.6 and 25.1 weeks, the BWs' were 1010 and 730 g. The rate of NEC, PDA, IVH and pulmonary hemorrhage were 29%, 36%, 36% and 21%, respectively in infants who survived more than 2 days.