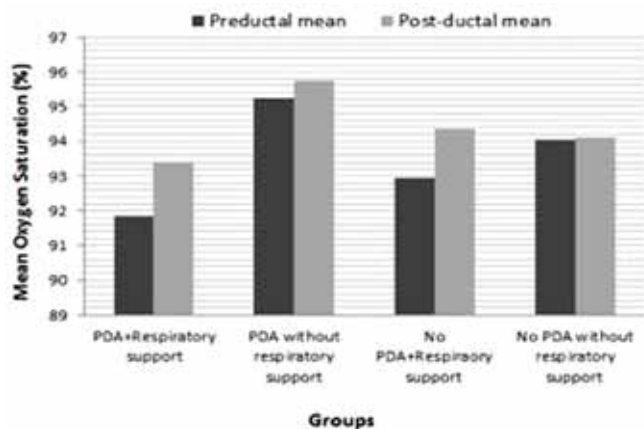


The mean pre-ductal saturations were lower than post-ductal saturations in all groups except the group not having a PDA and not on respiratory support (figure 1).



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?

doi:10.1136/archdischild-2012-302724.1795

<sup>1</sup>V Vendettuoli, <sup>2</sup>M Condò, <sup>3</sup>A Poloniato, <sup>4</sup>M Raia, <sup>5</sup>F Ramacciato, <sup>6</sup>LG Tina, <sup>7</sup>LM Abbiati, <sup>8</sup>A Staffler, <sup>9</sup>S Agostiniani. <sup>1</sup>NICU Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico - Università degli Studi di Milano, Milan; <sup>2</sup>Division of Neonatology and NICU, Ospedale A. Manzoni, Lecco; <sup>3</sup>Unità Operativa di Neonatologia e Patologia Neonatale - Dipartimento Materno-Infantile - H San Raffaele, Milan; <sup>4</sup>SCDU Neonatologia ASD OIRM S. Anna Università di Torino, Torino; <sup>5</sup>Division of Neonatology and NICU Ospedale Cardarelli, Campobasso; <sup>6</sup>TIN ARNAS Ospedale Garibaldi, Catania; <sup>7</sup>U.O. Neonatologia e Terapia Intensiva Neonatale - Fondazione MBBM - Ospedale San Gerardo Monza, Monza; <sup>8</sup>Department of Neonatology, Regional Hospital of Bolzano, Bolzano; <sup>9</sup>AOU MEYER, Firenze, Italy

**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

doi:10.1136/archdischild-2012-302724.1796

<sup>1</sup>H Hummler, <sup>1</sup>E Parys, <sup>1</sup>J Essers, <sup>1</sup>R Hopfner, <sup>1</sup>O Beringer, <sup>2</sup>B Mayer, <sup>1</sup>H Fuchs, <sup>1</sup>M Schmid. <sup>1</sup>Dept. of Pediatrics, Children's Hospital, University of Ulm; <sup>2</sup>Institute of Epidemiology and Medical Biometry, University of Ulm, Ulm, Germany

**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 cmH<sub>2</sub>O 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?

doi:10.1136/archdischild-2012-302724.1797

E Okulu, S Arsan, IM Akin, S Alan, A Kılıç, B Atasay. Department of Pediatrics, Division of Neonatology, Ankara University, Ankara, Turkey

**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, İVH and pulmonary hemorrhage were 29%, 36%, 36% and 21%, respectively in infants who survived more than 2 days.