1.5). Relative risk of extubation failure if PMA was <26 weeks or if HRC index was >1.0 were 2.3 and 2.2, respectively. HRC index added to PMA in predicting extubation failure, and infants <26 weeks PMA with HRC index >1.0 had 55% failure rate (Table).

Conclusion

The HRC index adds to PMA for prediction of extubation failure in VLBW infants.

Abstract PS-380 Table 1

<table>
<thead>
<tr>
<th>Category</th>
<th>#Risks Failed Succeeded</th>
<th>% Failure CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>High PMA, Low HeRO</td>
<td>0</td>
<td>13%</td>
</tr>
<tr>
<td>Either Low PMA or High HeRO, not both</td>
<td>1</td>
<td>27%</td>
</tr>
<tr>
<td>Low PMA, High HeRO</td>
<td>2</td>
<td>55%</td>
</tr>
</tbody>
</table>

PS-381\ Nasal High Frequency Ventilation is Not More Effective than Noninvasive Ventilation to Prevent Extubation Failure in Very Preterm Infants

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Background

In animal models nasal high frequency oscillatory ventilation appears to provide better lung development and less injury that means it could be protective against repeated need of conventional ventilation. In a randomised study we compared the clinical efficacy of nasal high frequency oscillatory ventilation (nHFOV) and nasal intermittent positive pressure ventilation (NIPPV) in prevention of repeated intubation in preterm infants with very low birth weight.

Methods

24 preterm infants with birth weight <1500 g on conventional mechanical ventilation (MV) were randomly assigned into two groups before extubation within 7 days of age. 12 infants with gestational age of 27.75 (2.41) weeks were treated with nHFOV and 12 infants with gestational age of 27.66 (1.66) wks were extubated to NIPPV for at least 72 hours. The primary study outcome was the repeated need for MV within 72 hours after primary extubation. The incidences of BPD at 36 weeks' corrected age were compared in the groups as well. BPD was defined according to the NIH consensus definition in modification of Walsh et al. (2003).

Results

Extubation failure rate after primary extubation was the same in the both groups – 41.67%. There was no difference in the duration of respiratory support between the groups. BPD developed in 2 infants (16.67%) in the nHFOV group and in 1 infant (8.33%) in the control group (p > 0.05).

Conclusions

In this study nHFOV was not found to be more effective than NIPPV in prevention of primary extubation failure in preterm infants with very low birth weight.

PS-385\ Outcomes of a Feasibility Study on CO2 Monitoring in the Delivery Suite

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Background

CO2 is not routinely measured in the delivery suite during neonatal resuscitation.

Objectives

1. Is capnography feasible in the delivery suite for preterm infants (<32 weeks)?
2. Does capnography use in the delivery suite enhance neonatal adaptation as determined by incidence of normocarbia following neonatal unit admission?

Methods

2 groups of infants were included. The first cohort did not have capnography used during their care in the delivery suite and were part of a study assessing blood sampling in preterm infants (Nov 12 – April 2013). The second group of infants had capnography performed in the delivery suite. A blood gas analysis reading of 5–8 Kpa was deemed to be within a normal range and was the determinant of a positive outcome. Ethics approval was granted and parental consent was obtained in all. Physicians were not instructed to achieve any particular EtCO2 reading whilst in the delivery room.

Results

83 infants were included in this study, 48 in the first cohort and 35 in the capnography cohort. Capnography was used in all infants in the prospective cohort. There was no difference in mean gestational age between the groups (28.4 ± 3.1 weeks versus 28.7 ± 1.8 weeks). The percentage of normocarbia was 47.9%(n = 23) in the first cohort compared to 51.4%(n = 18) in the second cohort (p-value 0.52). There was no difference in the incidence of hypocarbia between the groups (8.8% vs. 8.5%).

Discussion

Our results have shown that it is feasible to use capnography in the delivery suite. Capnography appears safe and was not associated with an increased incidence of hypocarbia. Randomised controlled trials with pre-determined acceptable EtCO2 levels are needed to determine whether capnography for PPV is associated with improved neonatal outcomes.