Background and aims Aetiology of BPD is multifactorial with prenatal and postnatal factors being involved. First, we aimed to evaluate the association between chorioamnionitis and BPD. Secondly, the effect of other perinatal factors on the risk of developing BPD were analysed.
Methods Retrospective analysis of all infants with GA <32 weeks or BW <1500 g. admitted into our hospital between 2002–2010. 120 patients who died before 36 weeks of PMA were excluded.
Results The average GA was: 29,7 ± 3 s; 217/432 (50%) had any type of chorioamnionitis (histological or clínical); 75/432 (17.4%) met diagnostic criteria for BPD at 36 weeks.

Univariate analysis: lower GA, any type of chorioamnionitis, DAP and duration of mechanical ventilation (MV) were associated with an increased risk of DBP ($p < 0.05$).

Multivariate analysis: administration of antenatal steroids or chorioamnionitis did not independently modify the risk of BPD. But adding both, the effect became statistically significant protective for BPD (OR 0.52, 95% CI 0.03 to 0.79).

Days in MV is the only factor that independently increased the risk of BPD. Neither a lower GA nor the presence of PDA had significantance; but, the risk of BPD was higher in the presence of PDA and MV together: every day in MV increased the risk of BPD (OR 1.130, 95% CI1.001- 1.27).
Conclusions Chorioamnionitis in coexistence with antenatal corticosteroids decreases the risk of BPD. Mechanical ventilation is the main risk factor for BPD. In the presenceof DAP, ventilation increases the risk of BPD.

PO-0758 LARYNGEAL MASK AIRWAY DEVICE PLACEMENT IN NEONATES

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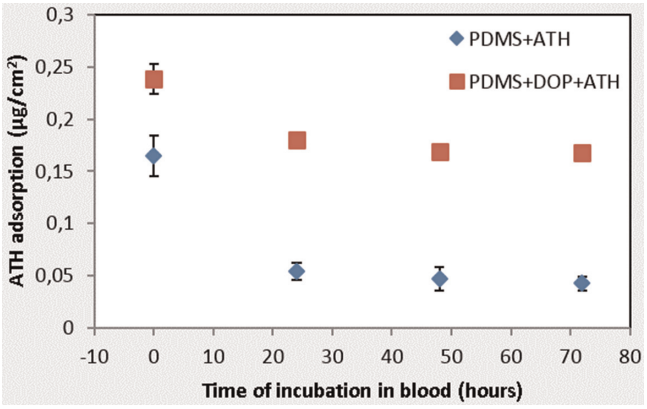
Background Endotracheal intubation (EI) is currently required for surfactant administration. However, EI is associated with adverse physiologic effects, including bradycardia and hypoxia. The laryngeal mask airway (LMA) may provide a more practical and less invasive alternative to EI for surfactant administration.
Aim Determine feasibility of LMA placement in neonates by investigating the time, number of attempts and physiologic stability during placement of the device.
Methods Infants ≥1250 g who required surfactant administration were eligible. Videotape of the LMA placement procedure was reviewed to determine number of attempts, duration of attempts, total procedure time, and heart rate and oxygen saturation change from baseline.
Results Twenty-two infants were included in analysis. Mean total procedure time was 129 seconds (±187). Duration of attempts was 59 seconds (±81). Successful placement was achieved on the first attempt in 73% of cases. Two attempts were required in 14% of cases and all procedures were successful in ≤3 attempts. As compared to baseline, heart rate increased 3 beats per minute on average (±4, range: -3 to 11) and oxygen saturation decreased by 7% on average (±8, range: -24 to 1), as shown in Figure 1.



Abstract PO-0758 Figure 1

Conclusions Successful placement was achieved in the majority of patients in one attempt with an average total procedure time of approximately 2 min. Physiologic parameters were maintained close to baseline with minimal fluctuation in heart rate and oxygen saturation. Placement of the LMA device is feasible in neonates.

PO-0759 SURFACE MODIFICATION OF A POLYDIMETHYLSILOXANE MICROFLUIDIC OXYGENATOR WITH DOPAMINE AND A COVALENT ANTITHROMBIN-HEPARIN COMPLEX FOR THE PREVENTION OF THROMBOSIS

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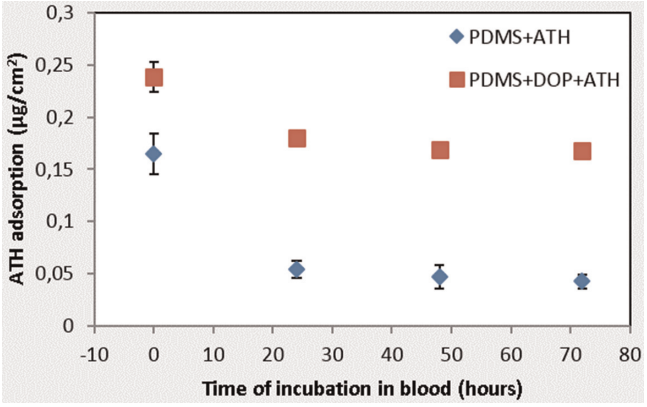
Introduction Prematurely born infants suffer respiratory insufficiency, our lab has developed a novel microfluidic oxygenator with polydimethylsiloxane (PDMS) gas transfer membranes to provide respiratory support. The objective of the work reported here was to modify the PDMS surfaces with a covalent antithrombin-heparin (ATH) complex to prevent coagulation



Abstract PO-0759 Figure 1 ATH desorption into blood from PDMS-ATH and PDMS-DOP-ATH surfaces