Abstract PS-376 Figure 1

Results 50 patients were enrolled (53 male). Main results are shown in table 1. LUS diagnosis were made based in Lichtenstein and Coppetti standards.

Conclusions Lung ultrasound can differentiate those patients with NNT from other causes of neonatal respiratory distress may be an extremely useful tool for respiratory prognosis and can reduce the number of chest radiographs performed in these patients.

PS-376 NON-INVASIVE VENTILATION IN NEONATES: EFFECT OF NASAL CANNULA SIZE, INSERTION DEPTH AND NARES DIAMETER ON MEAN AIRWAY PRESSURE - AN IN-VITRO STUDY

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Background Increased neonatal Non-Invasive Ventilation (NIV) use, such as nCPAP and high flow nasal cannula (HFNC) prompted re-evaluation of nasal interface devices – specifically short bi-nasal prongs, and their size and fit relative to the nares. **Objective** To quantify the effect of nasal prong size and insertion depth on generated mean airway pressure (MAP) during NIV.

Design/methods A Dräger traditional nCPAP interface, three sizes of RAM cannulae (Neotech, Valencia, CA, USA) and two Fisher and Paykel (FP) (Auckland, NZ) HFNC cannulae were tested with 8 simulated nares sizes. A simulated nasal airway was connected to an active lung model set at: V_t 8–10 ml, 60 b/m, T_i 0.35–0.40 s. A Dräger Evita XL ventilator delivered 4,5,6,7 and 8 cmH₂O to the RAM and the Dräger nCPAP cannulae and a FP HFNC system delivered 1–6 L/min flows. MAP was measured for open and closed-mouth conditions.

Results MAP decreased progressively as the percent nares occlusion (%Occl) decreased. At one-half insertion and closed-mouth conditions, close fitting prongs with high % Occl yielded MAP's of one-half of set CPAP levels. Delivered MAP's were significantly lower during open-mouth condition using either HFNC or CPAP cannulae. MAP increased with both flowrate and % Occl. A rapid rise in pressure was associated with %

Occl's >74%. Complete nares occlusions generated the highest pressures. Simulated closed-mouth produced 12 ± 7 SD

PS-377 WITHDRAWN

PS-378 IMPACT OF AMPLITUDE, FREQUENCY AND I:E RATIO ON TIDAL VOLUME IN HIGH FREQUENCY VENTILATION (VTHF) USING DIFFERENT HYBRID NEONATAL VENTILATORS

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Background and aims High frequency ventilation (HFV) is frequently used in both term and preterm newborns. Hybrid neonatal ventilators capable of both HFV and conventional ventilation are currently available with different mechanisms for

Abstract PS-378 Figure 1