

## Bronchiolitis and Wheeze

## 0-016 BREASTFEEDING AS A PROTECTOR FACTOR FOR ACUTE BRONCHIOLITIS

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**Background and aims** The advantages of breastfeeding are largely documented. Amongst other positive effects it reduces the risk of infectious disease in infants. We evaluated the effect of breastfeeding in the length of stay for infants with moderately ill bronchiolitis.

**Patients and methods** Prospective descriptive study including all moderately ill bronchiolitis infants admitted to our hospital between 2011–2014. They were grouped in exclusively breastfed or not. Severe bronchiolitis and patients with serious risk factors were excluded. The primary outcome was length of stay (LOS). The following variables were recorded: age, sex, atopic dermatitis, parental smoking, atopy in parents, number of siblings, RSV, treatment received and clinical scale of bronchiolitis at admission.

**Results** Among the 185 enrolled infants, 54.5% were exclusively breastfed. There were no statistically significant differences ( $p > 0.05$ ) in: male gender (47% vs 44%), atopic dermatitis (31% vs 31%), smoking parents (37% vs 44%), parental atopy (31% vs 31%), number of siblings (0.66 vs. 0.68) day care attendance (16% vs. 10%) and percentage of positive RSV (61% vs 60%). The median LOS in the breastfeeding group was 3.14 days compared with 2.82 days in the other group ( $p = 0.004$ ). There were statistically significant differences in median age ( $p = 0.000$ ) and the severity at admission ( $p = 0.021$ ).

**Conclusion** In our series, breastfeeding does not protect from bronchiolitis. The breastfed group were admitted at a younger age which could explain their longer LOS. Interestingly, breastfed infants had a lower score of severity at admission suggesting a relative protective role of against severe bronchiolitis.

## 0-017 RIGHT VENTRICULAR FUNCTION IN INFANTS WITH SEVERE BRONCHIOLITIS AND DIFFERENT RESPIRATORY SUPPORT

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**Background and aims** Cardiac dysfunction during bronchiolitis has been reported but few studies have assessed right ventricular function (RVF). The aim of this study was to assess RVF in infants with severe bronchiolitis with different respiratory support.

**Methods** Prospective study of under 3-month-old infants admitted to the PICU for severe bronchiolitis. Patients were classified in 3 groups according to the respiratory support: CPAP, bilevel positive airway pressure (BLPAP) and mechanical ventilation (MV). If the respiratory support was changed, echocardiography was repeated. Morphology and systolic and diastolic function were evaluated by echocardiography including Tissue Doppler imaging (TDI).

## Abstract 0-017 Table 1 Description of right ventricular function in infants with bronchiolitis with different respiratory support

Characteristics	CPAP(9) <sup>#</sup>	BLPAP(10) <sup>#</sup>	MV(11) <sup>#</sup>	p
Age (Days)	52 (26–90)	49 (16–78)	45 (16–72)	0,714
Weight (Kg)	4,0 (3–5,5)	4,2 (3,3–6)	4,2 (3,5–5,5)	0,611
	1,8	2,1	2,1	
Right sphericity index	(1,49–2,34)	(1,7–2,85)	(1,52–2,64)	0,102
Base-to-apex length (mm)	25,6 (23,7–27,2)	27,8 (22,9–31,3)	28,4 (26,3–34)	0,002
Tricuspid annulus s' (cm/s)	10 (6,7–14)	9,2 (6,7–14,6)	7,4 (4,2–10)	0,035
Tricuspid annulus e' (cm/s)	11,6 (9,6–15)	10,5 (7,5–16,9)	8,0 (4,5–10,1)	0,001
	1,2	1,1	1,0	
Tricuspid E/A ratio	(0,9–2,0)	(0,6–1,8)	(0,7–1,8)	0,140

<sup>#</sup>Mean (Range).

**Results** 30 echocardiographies were performed: 9 in infants with CPAP (4–8 cmH<sub>2</sub>O), 10 in BLPAP (13–16 cmH<sub>2</sub>O/6–8 cmH<sub>2</sub>O) and 10 in MV (PEEP 5–9 cmH<sub>2</sub>O and MAP 9–17 cmH<sub>2</sub>O). There was no difference in age or weight between the groups. The most relevant results are shown in Table 1.

**Conclusions** As respiratory support increases, decreased systolic and diastolic RVF is observed by TDI in infants with severe bronchiolitis.

## 0-018 EPINEPHRINE VERSUS PLACEBO IN HOSPITALISED INFANTS WITH BRONCHIOLITIS TREATED WITH HYPERTONIC SALINE SOLUTION

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**Background and aims** No bronchodilator nebulised in saline has significantly proven to be more effective than saline alone. The efficacy of adrenaline in hypertonic saline solution has not yet been studied. To determine the utility of nebulised adrenaline in hypertonic saline solution to treat acute bronchiolitis in moderately ill hospitalised infants.

**Methods** Randomised, double-blind, controlled trial. 185 hospitalised infants (age  $2.11 \pm 2.23$  months (mean  $\pm$  SD)) with acute bronchiolitis received either nebulised 7 ml of 3% hypertonic saline solution with 3 mg of adrenaline (group SSH3%+A; n = 94) or with 3 ml of placebo (group SSH3%+P; n = 91), in addition to routine therapy. Nebulisations were initially administered every four hours and adjusted thereafter according to clinical response. Severe bronchiolitis and patients with serious risk factors were excluded. The principal outcome measure was hospital length of stay (LOS).

**Results** On an intention-to-treat basis, the 3%HHS+A group had a clinically relevant reduction in LOS ( $3.94 \pm 1.88$  days), compared with  $4.88 \pm 2.30$  days in the 3%HHS+P group ( $p = 0.011$ ). There were no statistically significant differences ( $p > 0.05$ ) in: age (2.12 vs 2.10 months), male gender (50% vs 49%), atopic dermatitis (16.5% vs 9.6%), smoking parents (46% vs