RANDOMISED CONTROLLED TRIAL TO REDUCE MORDIBITY OF BRONCHIOLITIS IN YOUNG CHILDREN ADMITTED TO ROYAL DARWIN HOSPITAL IN THE NT

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Background

Bronchiolitis is the most common reason for hospital admission for infants globally(1). The use of antibiotics, in particular macrolides for treating bronchiolitis in non affluent settings remains controversial but potentially beneficial. In our region, readmission with lower respiratory illness in young children, particularly Indigenous children remains high.

Aims:

To determine if a single dose of azithromycin reduces the morbidity of young children hospitalised with bronchiolitis.

Hypothesis

The combined anti-microbial and anti-inflammatory properties of a macrolide, (Azithromycin) will improve clinical outcomes for young children with moderate-severe bronchiolitis.

Methods

Double blind RCT. Young children ≤18 months admitted to Royal Darwin Hospital (RDH) diagnosed with bronchiolitis are eligible.

Children are given a single dose (30mg/kg) of either azithromycin/placebo at enrolment.

Primary outcome:

Length of stay (LOS) for respiratory illness.

Secondary outcomes:

Duration of oxygen (O2) use and readmission for respiratory illness in 6 month period.

Results:

- 62 children enrolled to date, 43 males (68%).
- Median age is 6.0 months.
- 34% RSV+ve. 50 children (81%) were prescribed antibiotics on admission. Antibiotic use in children with bronchiolitis is common in RDH. 32 children had at least one co-morbidity (table 1).
- Indigenous children were more likely to have co-morbidities compared to non Indigenous children, but the difference did not reach statistical significance . Difference in proportions of 0.21 (95%CI -0.04, 0.46)
- Table 2 summarises preliminary results of LOS, hours on O2 and breakdown of medication groups.
- 10/57 (17.5%) children have been readmitted to RDH within 6 months of discharge. Of these 8 were Indigenous.

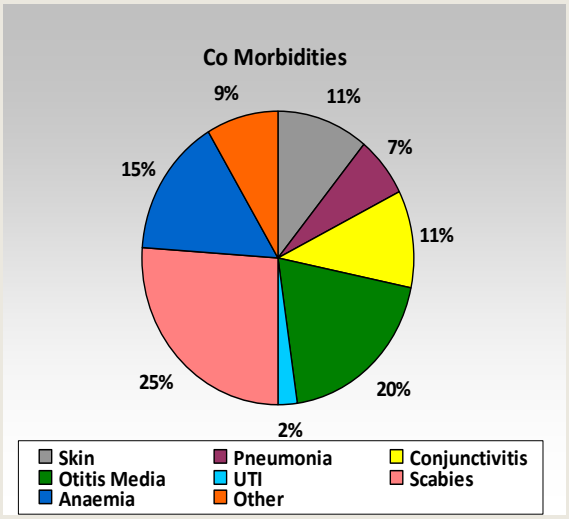

Table 2

Mean hrs (SD)	Indigenous (n= 42)	Non-Indigenous (n=20)	Medication groups				
			A	B	C	D	p
O2 (hours)	72.89 (92.28)	42.77 (31.05)	97.78 (138.97)	51.78 (32.84)	42.94 (21.82)	54.10 (36.14)	0.0807
LOS (hours)	91.27 (94.72)	57.85 (31.83)	115.61 (143.28)	69.83 (35.08)	60.21 (21.63)	70.29 (36.49)	0.0406

Table 1

Number of Co morbidities	Indigenous N = 42	Non Indigenous N = 20
1	23	9
2	8	3
3	3	0

Conclusions:

Recruitment for this study is ongoing. Results highlight that Indigenous children have longer hospitalisations, length of time requiring oxygen and number of co morbidities. Reducing the burden of ongoing respiratory illness in this population is important.

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Reference (1) Chang AB, Chang CC, O'Grady K, Torzillo PJ. Lower respiratory tract infections. Pediatr Clin North Am 2009 Dec;56(6):1303-21.

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