

Abstracts of Free Papers

OP 1

Randomized controlled parallel arm clinical trial comparing humidified high flow nasal cannula oxygen therapy and conventional treatment in infants with moderate and severe bronchiolitis

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Introduction Bronchiolitis is the commonest lower respiratory tract infection in infants. It is managed with supportive therapy as there is no specific treatment.

Objective To compare the effectiveness of heated humidified high flow nasal cannula (HHHNC) oxygen therapy against the standard treatment in infants with moderate and severe bronchiolitis.

Method Prospective open balanced randomized (1:1) two arm parallel group single center clinical trials was conducted at Teaching hospital Jaffna. Infants with moderate and severe bronchiolitis were recruited and block randomization was adopted. One arm was given with heated humidified high flow oxygen and the other arm with nasal prong oxygen.

Improvement in heart rate at two hours and respiratory rate at four hours of initiation of treatment, duration of oxygen and duration of hospital stay were considered as outcomes. Outcomes were assessed by medical officers who were trained by the investigator in regular intervals and the needs for ICU care or time of discharge were considered as the end point. Ethical clearance was obtained from ERC/FM/UOJ and the trial was registered in SLCTR.

Results A total of 36 children met the inclusion criteria; 18 in each arm one HHHNC and the other in conventional oxygen. A total of 31 (16 & 15 in each arm) completed the study while two in the HHHNC arm who developed secondary infection and 3 from conventional arm who needed to be changed to HHHNC were dropped out of the study. Mean age of the infants in HHHNC and convention arms were 6.19±3.3, 6.0±3.78 months respectively.

There was no significant difference in admission heart rate and respiratory rate in both the groups. Improvement of heart rate at 2 hours (F (1, 29) = [12.048]; p=0.002) and respiratory rate at 4 hours (F (1, 29) = [10.187]; p=0.003) were significant between the two groups.

There was no significant difference in duration of hospital stay ($F(1, 29) = [0.106]$; $p=0.747$) or duration of oxygen need ($F(1, 29) = [2.165]$; $p=0.152$) between the groups. All were discharged without any adverse sequelae.

Conclusion Significant improvement in outcome was noticed in HHHNC arm and there was no significant difference observed in duration of hospital stay or duration of oxygen requirement between the two groups.