

Patient 1: A two month old baby was admitted with pertussis chest infection and was invasively ventilated for nine days and on CPAP for seventeen days. The baby had right upper-lobe collapse with ongoing oxygen requirement on day 31 of illness, having not resolved with conventional chest physiotherapy. PEP was initiated in supported sitting using an infant face mask and a 1.5mm resistor. He received a total of 3 treatments over 2 days and was discharged home with no oxygen requirement and resolution of X-ray changes prior to discharge.

Patient 2: Four week old ex-premature baby (31 weeks) was admitted with RSV positive bronchiolitis, ventilated for six days and on CPAP for five days. Radiographic findings showed a right upper lobe collapse, persisting despite regular conventional chest physiotherapy. PEP was started on day 12 using an infant face mask and a 1.5mm resistor. On day 14, a repeat chest x-ray showed complete resolution of the right upper lobe collapse and the patient was discharged home the next day.

Conclusions: The use of PEP in infants is an under-reported but potentially beneficial modality in resolution of lobar collapse during acute illness.

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RISK FACTORS ASSOCIATED WITH EXTUBATION FAILURE (EF) IN EXTREMELY LOW GESTATIONAL AGE NEWBORNS (ELGAN)

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Aims: To analyze influence of perinatal characteristics(PC), mechanical ventilator(MV) parameters and early morbidity on EF of ELGAN with birth weight (BW)< 1000g.

Methods: This is a retrospective cohort of all ELGAN< 28 weeks gestational age(GA) and BW< 1000g born between 2004-2009 with MV started in the first week of life. EF was defined as the need for reintubation within 48h after the first extubation attempt.

Results: 165 infants were included. GA 25.9±1.1w, BW 788.2±126.5g. First extubation attempt was at 11.5±14.6d (median 6d). Nasal CPAP was used in all patients and nasal IMV in 78.4%. EF was 30.9%.

Comparing EF infants with those who succeed we didn't find any differences regarding PC. MV parameters and use of nasal IMV were similar between groups. EF group presented higher rates of late bronchopneumonia and MV length.

Extubation from A/C mode vs SIMV was earlier (7.6 vs 13.3d,p=0.007), with shorter time constant (51 vs 74.1, p=0.000) and higher mean airway pressure and rescue rate (7.1 vs 5.5 cmH₂O, p=0.000; 39.4 vs 24.5 rpm,p=0.000); compliance, minute-volume and EF (29 vs 29.6%) were similar.

ELGAN with BW< 750g had no significant difference in EF (37.3 vs 27.4%) although reintubation rate was higher (81.4 vs 51.4%,p=0.000).

Conclusion: This study does not support GA or BW as risk factors for EF in this population. BW< 750g did not determine a higher EF rate, although it could be a risk factor for later reintubation.

Extubation from A/C mode allows early extubation without increase of EF.

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UNSAFE SWALLOW IN CHILDREN: ARE WE DOING ENOUGH?

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Background: Recurrent chest infections are a common problem in children with unsafe swallow. Tracheostomy and gastrostomy are commonly performed in such children. However, it is not clear whether these interventions will resolve the problem.

Aim: Report the clinical profile of patients with unsafe swallow who have undergone tracheostomy and gastrostomy.

Methods: We retrospectively analysed children admitted to Paediatric Critical Care Unit in a tertiary referral hospital (March 2009-March 2010). We reviewed the indications for tracheostomy, associated co-morbidities, feeding adjuncts used, safety of swallow and the incidence of recurrent chest infections.

Results: Ten children were managed during this period with a median age at tracheostomy was 8 months (Range 1 week to 15 years). Common indications for tracheostomy included failed / difficult intubation (2), bilateral vocal cord paralysis