

DELIVERY ROOM MANAGEMENT

Mask vs. Nasal Tube for postnatal stabilization

Background

Respiratory support during postnatal adaptation is mainly administered via face mask (FM), however, nasal tube (NT) could have some potential benefits.

Summary of results

The group of Kamlin and coworkers studied n=363 infants (GA \leq 30 weeks) and found no difference with respect to the primary outcome (intubation rates during first 24 hours) between face mask (55%) and nasal tube (54%). Small, but no significant differences were found for secondary outcome parameters: FM group showed slightly higher delivery room intubation rates (30% vs. 21%); greater air leak (8% vs. 6%), more frequent use of postnatal corticosteroids (16% vs. 13%) and death (10% vs. 8%).

McCarthy et al. studied n=144 infants (GA \leq 31 weeks) and found no differences regarding intubation rate (15 vs. 15%). FM group showed significantly higher SpO₂ values at 5th minute of life (85 vs. 76%). Highest FiO₂ was similar in both groups (0.3) and mean Apgar score at 5 minutes was the same (8).

Strength

These are the first studies that exclusively focused on a comparison between FM and NT. Using a very similar study design, both studies show similar results.

Weakness

It would be interesting to know the efficiency of different interventions (for example sustained inflation) between FM and NT groups of infants.

Studies are restricted to short term outcome; no data regarding long term effect are available (except for BPD or death at 36 weeks). There is no data for late preterms and term newborns. The significantly higher values of SpO₂ at 5th minute should be interpreted with care due to the use of 2 different pulse oximetry monitors.

Practical conclusion

ILCOR guidelines recommend CPAP-administration through a round silicone face mask. According to the present data, nasal tubes seem to be a good alternative for DR-management of preterm newborns.

Kamlin CO, Schilleman K, Dawson JA et al. Mask versus nasal tube for stabilization of preterm infants at birth: a randomized controlled trial. *Pediatrics* 2013; 132: 381-8.

McCarthy LK, Twomey AR, Molloy EJ et al. A randomized trial of nasal prong or face mask for respiratory support for preterm newborns. *Pediatrics* 2013; 132: 389-95.

Written by:

Prof. Dr. med. Mario Rüdiger, MD
Dimitrios Konstantelos, MD