

OPTIFLOW™(OF) VERSUS VAPOTHERM®(VT) AS EXTENDED WEANING MODE FROM NASAL CONTINUOUS AIRWAY PRESSURE (NCPAP) IN PRETERM INFANTS ≤28 WEEKS GESTATIONAL AGE (GA)

L. Mahoney, J.R. Fernandez Alvarez, R. Gandhi, R. Bomont, C. Garland, H. Rabe

Department of Neonatology, Brighton and Sussex University Hospitals NHS Trust, Brighton, UK

Background: Current evidence supports continuous over discontinuous NCPAP weaning. The best strategy remains unknown. Humidified high flow nasal cannula (HHFNC) reduces NCPAP time in infants < 28GA.

Aim: To compare the two most frequently used HHFNC devices in weaning from NCPAP.

Methods: Matched-pair case-control study in infants ≤28GA born in a single tertiary neonatal centre between 2006-2010. Patients were matched for GA, birthweight (BW), antenatal steroids (AS), surfactant, mechanical ventilation and NCPAP. Outcome measures were duration of non-invasive respiratory support (HHFNC support and nasal cannula oxygen), oxygen requirement at 36GA, postnatal steroids, pneumothorax, length of stay (LOS) and discharge weight (DW). Results reported as median (25th-75th quartile). Statistics: Wilcoxon-and McNemar-test, p< 0.05.

Results: 18 (VT-group) and 14 (OF-group) patients with a GA and BW of 28GA(27-28) and 1170g(1031-1252) and 27GA(26-28) and 1051g(928-1230) were recruited respectively. In the VT-group 15/18 received AS and 10/18 surfactant versus 10/14 and 10/14 in the OF-group. 10/18 of patients in the VT-group were ventilated for 1day(0-3) and 16/18 on NCPAP for 5days(2-7) as compared to 10/14 for 2days(0-13) and 12/14 for 4days(2-9) in the OF-group. There was no statistically significant difference in any outcome measure compared: Patients spent 7days(3-18) on VT versus 7days(0-23) on OF without pneumothorax. 2/18 and 3/14 required oxygen at 36GA. Only one in the VF group required dexamethasone. LOS and DW were 62days(54-74) and 2168g(2009-2383) versus 67days(53-99) and 2221g(2078-2703).

Conclusion: Optiflow™ and Vapotherm® seem to be equally effective for weaning from NCPAP without increasing the risk of pneumothorax or bronchopulmonary dysplasia.