Hot topics from the web

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Neonatal-talk (www.infantgrapevine.co.uk) and NICU-NET (www.neonatology.org/nicu-net/join.html) are two of the many websites devoted to the exchange of information between staff involved in the care of neonates and infants, and the following are just a few of the new and on-going topics discussed. The opinions expressed do not claim to be evidence-based but will hopefully promote further discussion.

Ventilator associated pneumonia (VAP) and oral care

neonatal-talk

A questioner from Ohio was looking at ways of reducing VAP in neonates. Suggestions included mouth care with sterile water and gentle suction to reduce the risk of bacterial contamination of oral secretions, and naso-pharyngeal suction/nasal aspiration.

CPAP in delivery room and then to NICU

NICU-NET

A Unit in Texas was anxious to avoid intubating its preterm babies who had good respiratory effort. Instead its doctors were advocating CPAP in the delivery room and thereafter. However, they were anxious to keep the CPAP constant so as not to lose volume. The question was what was the best device to achieve this. They were currently using the Neopuff™ or the transport ventilator facility via Hudson prongs.

Most replies indicated that as changing from transport CPAP to static CPAP took only a few seconds, the loss of volumes was inconsequential. One unit said it was difficult to keep a seal on the baby whilst in transit using a Neopuff™ with face mask and they found the transport incubator lost heat through the open portholes when a 'hands-on' approach was necessary. A couple of responses to this were using an open cot for transfer or wrapping the baby in plastic wrap. Another unit utilised 'equipment on a stick' – air and oxygen cylinders with a CPAP device on a pole that was easily transportable from delivery room to NICU.

Comment

Transporting babies from the delivery room to the NICU on CPAP with the aim of either eliminating the need for intubation or reducing the period of mechanical ventilation is theoretically desirable to decrease the risk of ventilator-induced lung injury and subsequent chronic lung disease, although as yet this is unproven in clinical trials[1]. There is also no evidence available to determine which is the best method of delivering such CPAP, as this will depend on each unit's own circumstances, and in particular the distance between the delivery suite and NICU. Nasal CPAP is likely to be more effective than mask CPAP, and this can be delivered through prongs attached to a transport ventilator circuit switched to deliver CPAP, or alternatively using a dedicated device such as the Infant Flow Driver™, which can run on batteries but needs oxygen and air cylinders to provide the flow. It may be preferable to use transport nCPAP of the same type as that used in the individual NICU, so that the interface between the device and the baby's nose doesn't have to be changed on arrival in NICU.

1. **Donn S.M., Sinha S.K.** Minimising ventilator induced lung injury in preterm infants. *Arch Dis Child* 2006; **91**: F226-230.

Frequency of ventilator checks

NICU-NET

A questioner, again from America, was interested in how often other units were doing ventilator checks, and also who was doing them. In their unit, the respiratory therapists (RT) were checking ventilator/CPAP units on an hourly basis to confirm settings, alarm limits etc whereas the "community-standard" was thought to be two- to three-hourly.

A flood of replies agreed that hourly checks were too frequent. As all checks were done by the RTs, it would appear that Registered Nurses are not 'ventilator trained' in the USA. Checks in the units that replied were made two, three or four hourly and after parameter changes or airway maintenance. One comment was that if the checks were made hourly, there would be no time for any other work, and another that once the baby was stable, sophisticated machines and monitoring made frequent checks unnecessary.

Readmissions to NICU

NICU-NET

As NICU graduates are prone to infection, one questioner from Texas wanted to know the criteria that other units had for readmitting babies once they had been discharged. The criteria varied greatly, with some units not worried about infection. Others screened the babies that were readmitted – some for just RSV; others performed a full infection screen. Some units, but not all, isolated the babies – some for the whole time they were in hospital and others until infection screen proved negative. Diagnoses included high bilirubin levels, fluid overload causing respiratory distress, increasing apnoeas and bradycardias. Also at a surgeon's request if the baby was considered too small to be treated in the paediatric department.

Comment

In the UK there is not a consistent policy with regard to readmissions to NICUs after a baby has been home. This is because any such requirement for readmission will depend in part on what other paediatric facilities are available in the hospital (e.g. paediatric intensive or high dependency care). The main concern about readmission is regarding infection with viruses, particularly respiratory, and the spread of these through the NICU. It is therefore sensible to avoid readmission for respiratory illness and other infections (unless the baby can be isolated). However, for other cases, such as hyperbilirubinaemia or paediatric surgery, a pragmatic approach should allow readmission in situations where the NICU can provide the best care for the sick infant.